

JAY M. SHIELDS 24 FEDERAL
24-41N-1W COCONINO CO.

775

LEASE NO. Fed A 10457

LOCATION	<u>NW SE</u>	SEC	<u>24</u>	TWP	<u>41N</u>	RANGE	<u>1W</u>	FOOTAGE	<u>2309 FOS, 16178</u>
ELEV	<u>66</u>	GR		KB		SPUD DATE	<u>12-1-81</u>	STATUS	<u>P/S 1/4</u>
	<u>5002</u>					COMP. DATE	<u>2/6/90</u>	TOTAL DEPTH	<u>491</u>

<u>CASING SIZE</u>	<u>DEPTH</u>	<u>CEMENT</u>	<u>LINER SIZE & DEPTH</u>	DRILLED BY ROTARY _____
_____	_____	_____	_____	DRILLED BY CABLE TOOL _____
_____	_____	_____	_____	PRODUCTIVE RESERVOIR _____
_____	_____	_____	_____	INITIAL PRODUCTION _____

[illegible]

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG
Dual Induction			SAMPLE DESCRP.
Comp. Density			SAMPLE NO. 1838
			CORE ANALYSIS
			DSTs
REMARKS			APP. TO PLUG
			PLUGGING REP.
			COMP. REPORT

PERMIT NUMBER 775

(over)

PLUGGING RECORD							
Operator SHIELDS EXPLORATION COMPANY				Address 320 BELLINO DR., PACIFIC PALISADES, CA 90272			
Federal, State, or Indian Lease Number or lessor's name if fee lease. A-10457			Well No. 6A-24	Field & Reservoir Wildcat			
Location of Well 1647' FEL & 2309 FSL, Sec. 24, T41N-R1W, G&SRB MERIDIAN						County COCONINO	
Application to drill this well was filed in name of SHIELDS EXPLORATION CO.			Has this well ever produced oil or gas NO	Character of well at completion (initial production): Oil (bbbl/day) _____ Gas (MCF/day) _____ Dry? Yes			
Date plugged: 2/6/90	Total depth 491	Amount well producing when plugged:					
		Oil (bbbl/day) N/A		Gas (MCF/day) N/A		Water (bbbl/day) N/A	
Name of each formation containing oil or gas. Indicate which formation open to wellbore at time of plugging	Fluid content of each formation		Depth interval of each formation		Size, kind & depth of plugs used. Indicate zones squeeze cemented, giving amount cement		
KAIBAB (open to wellbore)	Water with shows O/G. W.L. appr. 425'		0-491				
CASING RECORD							
Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes		
7" csg	60'	-----	60'				
4½" csg	434'	-----	434'		4½" cmt.shoe @ 434' Open hole 434 to 491TD		
Was well filled with heavy drilling mud, according to regulations? Well filled with cement 491 to surface				Indicate deepest formation containing fresh water. KAIBAB			
NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE							
Name		Address			Direction from this well:		
none							
In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.							
Use reverse side for additional detail. Steel Plate Reads: Shields Fed 6A-24,NENWSW24,T41N-R1W,A-10457,AZ77							
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the <u>President</u> of the <u>Shields Exploration Co.</u> (company) and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.							
Date Feb 21, 1990		Signature <u>Jay M Shields</u>					
Permit No. 775				STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Plugging Record File One Copy Form No. 10			

APPLICATION TO PLUG AND ABANDON

FIELD WILDCAT - WHITE SAGE PROSPECT

OPERATOR SHIELDS EXPLORATION COMPANY ADDRESS 320 BELLINO DRIVE, PAC, PAL, CAL 90272

Federal, State or Indian Lease Number A-10457 WELL NO. SF 6A-24

or Lessor's Name if Fee Lease

LOCATION NE 1/4 NW 1/4 Sec. 24, T41N-R1W

TYPE OF WELL DRY HOLE TOTAL DEPTH 491'

(Oil, Gas or Dry Hole)

ALLOWABLE (If Assigned) N/A

LAST PRODUCTION TEST N/A OIL (Bbls.) WATER N/A (Bbls.)

GAS (MCF) DATE OF TEST

PRODUCING HORIZON NONE PRODUCING FROM TO

1. COMPLETE CASING RECORD.

7" casing cmtd at 60 feet using 15sx
4 1/2" casing cmtd at 434'. Cement to surface.

2. FULL DETAILS OF PROPOSED PLAN OF WORK.

Abandonment in accord with Rules and Regs of the USDI-BLM and the State of Arizona Oil & Gas Conservation Commission.

PLUGGING PLANS:

- 1/ Well to be plugged using DOWELL CEMENTERS. Will pump 15sx cement downhole estimate top at 390'. Plug 390'-491'.
- 2/ DOWELL will cement top plug from 50' to surface using tool. Will fill annulus if needed. Est 3sx cement inside 4 1/2" csg. Will lower pipe to grd level, 4 1/2' & 7".
- 3/ Will weld 1/2" Steel Plate to top pipe at surface. Plate to read: SHIELDS FEDERAL 6A-24; NENWSW Sec24 41N-1W; AZ775

DATE COMMENCING OPERATIONS FEBRUARY 5, 1990. Will confirm time by phone.

NAME OF PERSON DOING WORK SHIELDS- CHAMBERLIN ADDRESS KANECO, KANAB, UTAH

Signature

PRESIDENT, SHIELDS EXPLORATION COMPANY

Title

320 BELLINO DRIVE, PACIFIC PALISADES, CA 90272

Address

JANUARY 29, 1990

Date

Date Approved 2/2/90

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: [Signature]

Permit No. 775

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Application to Plug and Abandon
File Two Copies

Form No. 9

4/82

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MAR 17 1982

O & G CONS. COMM.

Gas Analysis
Shields Exploration Company
Shields #6 Well
Northern Arizona
RFL-CA 82006

6A-24

RESERVOIR FLUIDS

CORE

775

1250 E. PACIFIC ANAHEIM, CALIFORNIA 92805 - 714/937-1094

CORE LABORATORIES, INC.



March 4, 1982

Shields Exploration Co.
320 Bellino Drive
Pacific Palisades, CA 90272

Attention: Mr. Jay Shields

Subject: Gas Analysis
Shields #6 Well
Northern Arizona
RFL-CA 82006

*Shields Federal
6A-24*

Gentlemen:

Four samples of well head gas were collected from the subject well by Shields Exploration personnel. These samples were shipped to our laboratory in Anaheim, California for routine gas analysis. The results of these analyses are presented on the following pages.

Gas sample number one was highly contaminated with air which made analysis invalid. Sample numbers two and three were analyzed by gas chromatography through hexanes with a heptanes plus fraction.

Thank you for the opportunity to perform these analyses for Shields Exploration Company. If any questions arise, or if we may be of further service in any way, please do not hesitate to contact us.

Very truly yours,

CORE LABORATORIES, INC.

Karl W. Karnes

Karl W. Karnes
Laboratory Supervisor
Reservoir Fluid Analysis

KWK:ek
7cc: Addressee

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 ANAHEIM, CALIFORNIA

Page 1 of 2
 File RFL-CA 82006
 Well Shields^{Fed}#6-A-24

HYDROCARBON ANALYSIS OF WELL HEAD GAS SAMPLE #2

<u>Component</u>	<u>Mol Percent</u>	<u>GPM</u>
Hydrogen Sulfide	0.00	
Carbon Dioxide	30.58	
Nitrogen	69.06	
Methane	0.26	
Ethane	0.00	0.000
Propane	0.01	0.003
iso-Butane	0.02	0.007
n-Butane	0.03	0.010
iso-Pentane	0.02	0.007
n-Pentane	0.02	0.007
Hexanes	0.00	0.000
Heptanes plus	0.00	0.000
	<u>100.00</u>	<u>0.034</u>

Calculated gas gravity (air = 1.000) = 1.136

Calculated gross heating value = 6 BTU per
 cubic foot of dry gas at 14.73 psia and 60°F.

Collected at 2 psig and 36 °F. in the field.

UNITED STATES CANADA SOUTH AMERICA EUROPE AFRICA AUSTRALIA ASIA

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted). But Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the product.

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MAY 3 1982

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Gas Analysis

Shields Exploration Company
Shields #6 Well
Northern Arizona

RFL-CA 82006

P/7 775

RESERVOIR FLUIDS

CORE

1250 E. PACIFIC ANAHEIM, CALIFORNIA 92805 - 714/937-1094

CORE LABORATORIES, INC.



March 4, 1982

Shields Exploration Co.
320 Bellino Drive
Pacific Palisades, CA 90272

Attention: Mr. Jay Shields

Subject: Gas Analysis
Shields #6 Well
Northern Arizona
RFL-CA 82006

Gentlemen:

Four samples of well head gas were collected from the subject well by Shields Exploration personnel. These samples were shipped to our laboratory in Anaheim, California for routine gas analysis. The results of these analyses are presented on the following pages.

Gas sample number one was highly contaminated with air which made analysis invalid. Sample numbers two and three were analyzed by gas chromatography through hexanes with a heptanes plus fraction.

Thank you for the opportunity to perform these analyses for Shields Exploration Company. If any questions arise, or if we may be of further service in any way, please do not hesitate to contact us.

Very truly yours,

CORE LABORATORIES, INC.

A handwritten signature in dark ink, reading "Karl W. Karnes". The signature is written in a cursive, flowing style.

Karl W. Karnes
Laboratory Supervisor
Reservoir Fluid Analysis

KWK:ek
7cc: Addressee

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
ANAHEIM, CALIFORNIA

Page 1 of 2
File RFL-CA 82006
Well Shields #6

HYDROCARBON ANALYSIS OF WELL HEAD GAS SAMPLE #2

<u>Component</u>	<u>Mol Percent</u>	<u>GPM</u>
Hydrogen Sulfide	0.00	
Carbon Dioxide	30.58	
Nitrogen	69.06	
Methane	0.26	
Ethane	0.00	0.000
Propane	0.01	0.003
iso-Butane	0.02	0.007
n-Butane	0.03	0.010
iso-Pentane	0.02	0.007
n-Pentane	0.02	0.007
Hexanes	0.00	0.000
Heptanes plus	0.00	0.000
	<hr/> 100.00	<hr/> 0.034

Calculated gas gravity (air = 1.000) = 1.136

Calculated gross heating value = 6 BTU per
cubic foot of dry gas at 14.73 psia and 60°F.

Collected at 2 psig and 36 °F. in the field.

UNITED STATES CANADA SOUTH AMERICA EUROPE AFRICA AUSTRALIA ASIA

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
ANAHEIM, CALIFORNIA

Shields 6-24, Sec 24, 41N-1W

Page 2 of 2

File RFL-CA 82006

Well Shields #6

HYDROCARBON ANALYSIS OF WELL HEAD GAS SAMPLE #3

<u>Component</u>	<u>Mol Percent</u>	<u>GPM</u>
Hydrogen Sulfide	0.00	
Carbon Dioxide	30.70	
Nitrogen	68.92	
Methane	0.28	
Ethane	0.00	0.000
Propane	0.01	0.003
iso-Butane	0.02	0.007
n-Butane	0.03	0.010
iso-Pentane	0.02	0.007
n-Pentane	0.02	0.007
Hexanes	0.00	0.000
Heptanes plus	0.00	0.000
	<u>100.00</u>	<u>0.034</u>

Calculated gas gravity (air = 1.000) = 1.137

Calculated gross heating value = 6 BTU per
cubic foot of dry gas at 14.73 psia and 60°F.

Collected at 15 psig and 36 °F. in the field.

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MAY 3 1982

O & G CONS. COMM.

No. S30-B074-80

CHEMICAL RESEARCH AND DEVELOPMENT DEPARTMENT

HALLIBURTON SERVICES
DUNCAN, OKLAHOMA

LABORATORY REPORT

To Mr. F. X. deBlanc, Jr.
Halliburton Services
P.O. Box 1008
Norwalk, CA 90650

Date December 24, 1980

This report is the property of Halliburton Services and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operation by any person or concern and employees thereof receiving such report from Halliburton Services.

We give below results of our examination of the submitted core samples.

Submitted by Mr. deBlanc for Shields Oil Co.

Marked Well: Shields Federal #124
Coconino Co., AZ
Cores: 458' and 459'
34° API Gravity Oil
φ = 16-18.67
K = 0.3-1.5 md

Core sent by Tom Rader, Santa Fe Springs, Ca.

PURPOSE

The purpose of this examination was to determine the mineral content, acid solubility and acid etched fracture flow capacity of the submitted cores.

RESULTS

The requested tests were performed and their results are recorded in the Data Section of this report.

X-RAY DIFFRACTION ANALYSIS

	458	459
Quartz	7%	7%
Feldspar	-	-
Calcite	-	-
Dolomite	68%	70%
Kaolinite	1%	1%
Illite	-	1%
Smectite	-	-
Mixed Layer Clay	1%	1%
Gypsum	21%	18%
Siderite	1%	2%
Anhydrite	1%	1%
HCl Solubility*	76.2%	76.1%

*This is solubility in dilute HCl as CaCO₃ only.

ACID ETCHED FRACTURE FLOW CAPACITY TESTS

Conditions: Temperature -----76°F
Closure Pressure --1000 psi

Acid Solution	Contact Time(Min)	Fracture Flow Capacity (md-ft)		Amount Removed and Crushed (inch)
		MY-T-ACID®*	Conventional**	
15% HCl	20	19,382	8,614	0.034
0.1% HAI-50	40	49,946	20,472	0.038

* - Fracture conductivity that could result from a MY-T-ACID treatment. When a viscous preflush is used ahead of acid, viscous fingering can occur. Any treatment where viscous fingering is anticipated is described as a MY-T-ACID treatment. When viscous fingering occurs, the acid only contacts a portion of the fracture resulting in differential etching and usually much higher fracture conductivity.

** - Fracture conductivity measured under closure pressure. This is the fracture conductivity that would be expected from a conventional fracture acidizing treatment.

PAGE NO. 3

HALLIBURTON CHEMICAL LABORATORY REPORT NO. S30-B074-80

REMARKS

The data in this report were given to Mr. F. X. deBlanc, Jr., by Mr. Bob Ewing during a telephone conversation on December 23, 1980.

DATA BOOK REFERENCE

The data presented in this report are recorded in Chemical Services Book No. 4140, page 32, Analytical Book No. 4204, page 56, and Analytical Book No. 4201, page 69.

cc: Mr. J. R. Fehrenbach
Mr. S. H. Shryock
Mr. T. A. Rader
Mr. W. T. Malone
Mr. E. J. Stahl, Jr.
Mr. F. N. Harris

Respectfully submitted,

Laboratory Analyst
Ewing-McCarty-Blanton

rdf

HALLIBURTON SERVICES

By Bob C. Ewing
Bob C. Ewing #144

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CHEMICAL RESEARCH AND DEVELOPMENT DEPARTMENT

HALLIBURTON SERVICES
DUNCAN, OKLAHOMALABORATORY REPORT

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MAY 3 1982

O & G CONS. COMM.

No. F11-T186-81
Supplement 1To Mr. Tom RaderDate October 22, 1981Halliburton ServicesSanta Fe Springs, CA

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We give below results of our examination of a previously submitted core sample.

Submitted by Jay Shields

Marked Well: Federal No. 1-24
Location: Coconino County, Arizona
Formation: Not Given
Depth: 459-60 feet

Purpose

This formation core was submitted for rock properties tests.

Conclusions

Results of the requested tests are presented in the Data section of this report.

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PAGE NO. 2

HALLIBURTON CHEMICAL LABORATORY REPORT NO. F11-T186-81
Supplement 1

Data

Rock Properties Tests

<u>Sample No.</u>	<u>Depth (feet)</u>	<u>Young's Modulus (psi)</u>	<u>Poisson's Ratio</u>
1	459-60	5.58×10^6	0.21

Remarks

The data in this report were given to Mr. Tom Rader by Mr. John Terracina during a telephone conversation on October 15, 1981.

The remaining core from this project was returned to Mr. Tom Rader, Halliburton Services, Sante Fe Springs, CA.

Data Book Reference

The data presented in this report are recorded in Materials Engineering Book No. 4449, page 46.

cc: Mr. R. M. Lasater
Mr. A. B. Waters
Mr. A. R. Jennings, Jr.
Mr. J. R. Fehrenbach
Mr. S. H. Shryock
Mr. D. G. Moriarty

Respectfully submitted,

HALLIBURTON SERVICES

Laboratory Analyst

Terracina-Rice-Fitzgerald-Lovett
gr

By John M. Terracina
John M. Terracina

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CHEMICAL RESEARCH AND DEVELOPMENT DEPARTMENT

HALLIBURTON SERVICES
DUNCAN, OKLAHOMA

LABORATORY REPORT

No. S30-B106-81

To Mr. Tom Rader
Halliburton Services
P.O. Box 2947
12320 S. Bloomfield
Santa Fe Springs, CA 90670

Date December 9, 1981

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We give below results of our examination of the submitted cores.

Submitted by Mr. Rader for Shields Exploration Co.

Marked Shields Exploration Company
White Sage Area
Coconino Co., AZ
Shields Lease

RECEIVED
MAY 3 1982
D & G CONS. COMM.

Well	Core	Depth (ft.)	Ka'	Porosity
2-24	3	459.5-62.5	0.38 md	12.1%
2-24	C	462.5-68.0	0.02 md	8.6%
5-24	12	450.5-53.5	0.98 md	15.7%
5-24	7	455.5-60.5	0.15 md	9.6%

PURPOSE

These cores were submitted for analysis with the results to be used in determining whether a treatment recommendation based on previous core analysis and acid flow studies was still valid.

RESULTS

There were four cores submitted with all being major dolomite, however three had HCl solubilities in the 85-90% range and one with 56% solubility. A comparison with previous analysis as reported in Chemical Services Report S30-B074-80 indicated the recently submitted cores had higher overall solubility and should respond as well or better to a fracture acidizing treatment.

It is suggested that, the foamed fracture acidizing proposal as presented by telephone to Mr. Tom Rader with Halliburton at Santa Fe Springs, CA and to Mr. Jay Shields of Shields Exploration Company should be carried out as planned.

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PAGE NO. 2

HALLIBURTON CHEMICAL LABORATORY REPORT NO. S30-B106-81

X-RAY DIFFRACTION ANALYSIS

	2-24 (C)	2-24 (4)	5-24 (7)	5-24 (12)
Quartz	Large	Mod.-Large	Large	Small
Feldspar	-	Trace	V. Small	-
Dolomite	Major	Major	Major	Major
Siderite	Trace	Trace	Trace	-
Gypsum	Moderate	Sm.-Mod.	-	Small
Chlorite	Trace	Trace	-	-
Mixed Layer Clay	-	-	Trace	-
Solubility*	85%	89%	56%	89.5%

*Solubility in 28% HCl by weight loss.

REMARKS

The data in this report were given to Mr. Jay Shields by Mr. S. E. Fredrickson during a telephone conversation on December 7, 1981.

DATA BOOK REFERENCE

The data presented in this report are recorded in Chemical Services Book No. 4426, page 62; and Chemical Services Book No. 4565, page 29.

cc: Mr. J. R. Fehrenbach
Mr. S. H. Shryock
Mr. J. D. Wilson, Sr. ✓
Mr. D. L. Roll
Mr. R. M. Lasater
Mr. E. J. Stahl, Jr.
Mr. G. C. Broaddus

Respectfully submitted,

HALLIBURTON SERVICES

Laboratory Analyst

Stewart-Blanton

By

S. E. Fredrickson

S. E. Fredrickson

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CHEMICAL RESEARCH AND DEVELOPMENT DEPARTMENT

HALLIBURTON SERVICES
DUNCAN, OKLAHOMA

LABORATORY REPORT

No. F11-T186-81

To Mr. Tom Rader

Date September 14, 1981

Halliburton Services

Sante Fe Springs, CA

This report is the property of Halliburton Services and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operation by any person or concern and employees thereof receiving such report from Halliburton Services.

We give below results of our examination of a submitted core sample.

Submitted by Jay Shields

Marked Well: Federal No. 1-24
Location: Coconino County, Arizona
Formation: Not Given
Depth: 459-60 feet

Purpose

This formation core was submitted for x-ray diffraction and rock properties tests.

Conclusions

Results of the x-ray diffraction analysis are presented in the Data section of this report.

Rock properties will be included in a supplemental report due to mechanical problems at this time.

Acid etched fracture flow capacity tests were performed on core samples from this well having a depth of 458 to 459 feet. Results are presented in Chemical Services' Report No. S30-B074-80, dated December 24, 1980.

775

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Data

Qualitative X-ray Diffraction Analysis

Sample No.	1 (gray)	2 (brown)
Depth (ft)	459-60	459-60
Quartz	MJ	LG
Feldspar	VS	VS
Calcite	SM	VS
Dolomite	SM-MD	MJ
Kaolinite	-	-
Illite	-	-
Smectite	-	-
Mixed Layer Clay	-	-
Chlorite	-	-
Gypsum	MD	SM-MD

Coding	Reported Amount	Approximate Percentage Range
-	None Detected	Less than 0.1
TR	Trace	0.1 to 1.0
VS	Very Small	1.0 to 3.0
SM	Small	3.0 to 10.0
MD	Moderate	10.0 to 20.0
LG	Large	15.0 to 40.0
MJ	Major	40.0 to 100.0

Note: Sample No. 1 is from the gray portion and Sample No. 2 from the brown portion of the submitted core sample.

Remarks

The data in this report were given to Mr. John Cinque by Mr. John Terracina during a telephone conversation on September 8, 1981.

The remaining core from this project was stored in the Core Library.

Data Book Reference

The data presented in this report are recorded in Analytical Book No. 4473, page 8.

cc: Mr. D. G. Moriarty Mr. A. B. Waters
 Mr. J. R. Fehrenbach Mr. E. J. Stahl, Jr.
 Mr. S. H. Shryock Mr. A. R. Jennings, Jr.
 Mr. R. M. Lasater

Respectfully submitted,

Laboratory Analyst

Terracina-Phelps-Crowell-Lovett-db

HALLIBURTON SERVICES

By

John M. Terracina
 John M. Terracina

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MAY 3 1982

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REVIEW AND EVALUATION OF SHALLOW DRILLING

WHITE SAGE PROSPECT

During November and December 1981, your 1981 Program Partnership drilled and cased four shallow wells in section 24 of the White Sage lease block, totaling at that time 4640 Acres (by April 1982, the lease block had been increased to 8720 Acres). Three of the four wells were treated with acid and nitrogen. All were cored through the objective zone, the White Sage Dolomite, at depths from 453 to 470 feet.

The permeabilities of the dolomite recovered proved low, although the porosities were general favorable and some cores were bleeding oil. This very fine grain dolomite was oil-stained brown to dark brown and occurred at the same place in the formation in all wells, its thickness averaging 5 to 8 feet. Within the dolomite were small pods of siltstone, many thin beds of black shale and some stringers of gypsum. Above the oil zone there is a thick 20 to 30-foot section of anhydrite. This mineral, calcium sulphate, is normally very dense with a translucent, pale-bluish to grey-white color. When near oil-bearing dolomites, the anhydrite becomes oil-stained with color increasing from tan to dark brown at the contact. Above the anhydrite beds there is a section of shales, siltstones and dolomites averaging from 20 to 25 feet thick, followed by as much as 20 additional feet of anhydrite. Its total thickness averages about 40 feet and forms superior cap rock to preserve any oil pools, particularly at shallow depths.

In addition to the main White Sage cored interval, a number of other very fine grained oil-bearing dolomite lenses were drilled and identified from bit cuttings and strong oil odor. In Well #1-24, a three-foot oil-saturated dolomite was found about 20 feet below the cored section, and others also averaging three feet thick were found above the core point. All the dolomites were the same type of fine grained and porous rock with very low permeabilities. In the original Travis Well, a similar dolomitic oil zone was found below 740 feet. All wells had oil and gas shows in zones above 400 feet and above the main anhydrite cap rock. While no oil entered the well bore, these shows demonstrate an oil potential at shallow depths. In addition, and at only 200 feet, there is a coral reef development as much as 50 feet thick which is porous in bit cuttings and proved to be very porous in logs run by Welex. Oddly, the logs showed no water content and a possibility of hydrocarbons. No water or hydrocarbons were observed during drilling. However, the cuttings, particularly from Well #6A-24, when treated with dilute acid gave off a strong petroleum odor. Reefs are indicative of shallow water marine deposits, an environment very favorable for oil accumulation. Anhydrite and dolomite developed under shallow, lagoonal conditions, create an excellent oil habitat.

As you know, we sent all cores of the dolomite zone to Core Lab, Inc., an international firm, for analysis. Their Reports confirmed the generally good though variable porosity and that the oil was of a surprisingly high gravity (28° to mostly 34° to 36°) in the pore spaces. They also identified the problem of very low

permeability and suggested that the rock, being fine grained, had very small pore spaces which contributed to the problem of moving oil through the dolomite host rock. Core Lab also reported that as much as 75% of the dolomite would react to and dissolve in acid.

Some of our cores were sent back to the main laboratory of Halliburton, Inc., in Duncan, Oklahoma, for tests of acid reaction and fracturing possibilities. These tests were generally favorable, which led to our using hydrochloric acid foamed with nitrogen in efforts to break down the microporous dolomite and open channels for the oil to move through. Wells #2-24, #5-24 and #6A-24 were treated by Halliburton. To date, the wells have steady low pressures with reports indicating a gas-oil odor on occasion, mostly from the #6A-24 well.

Since drilling, we have bailed these wells on a regular basis, recovering spent acid water and, as you know, no oil. We also have an agent check the gas pressure and odor once a week. Gas samples have been analyzed, indicating mostly nitrogen and carbon dioxide, both products of our acid treatment acting on the dolomite formation. While the gas flow continues, there is always a chance that oil might come into the well bore.

EVALUATION

All the laboratory and research evidence indicates that we have now definitely identified, and in effect discovered, a Carbonate (dolomite-limestone) - Evaporite (anhydrite) Basin at shallow depths in the Kaibab and Toroweap formations of Permian Age. This Basin may be quite extensive and certainly includes all of our current lease block of 8720 acres (12+ square miles). It probably includes, but is not so identified, the Upper Valley Oilfield, 45 miles northeasterly of our leases. Upper Valley has produced over 16 million barrels of oil (about \$500 million at current prices). Almost all of the oil has been produced from the Kaibab formation and most from very fine grained tan to dark brown oil-stained dolomites in the lower member which correlates with our White Sage Dolomite. This Upper Valley dolomite (K-4 zone) varies in thickness from 6 to 50 feet and in permeabilities and porosities. Porosities are generally similar to those at White Sage but permeabilities are definitely higher in most wells. No exploratory wells were drilled to test the Kaibab formation in the 45 miles between White Sage and Upper Valley since the Field was discovered in 1964. Only water wells have been drilled to various depths with some reporting oil and gas shows.

Carbonate-Evaporite Basins are not very common although they are generally quite extensive and prolific oil producers. Basin sediments are deposited in lagoonal marine environments which provide the cap rock (anhydrite), the oil source (lagoonal organisms) and the oil reservoir rock (dolomites and limestones). In Saudi Arabia, about 400 feet of anhydrite cap rock overlies approximately 800 feet of porous limestone in the most prolific series of oilfields in the world. While there is argument over the oil source beds, there can be no doubt that the Carbonate-Anhydrite relationship favors oil accumulation. The nearest Carbonate-Evaporite Basin to White Sage is the Paradox Basin in southeastern Utah.

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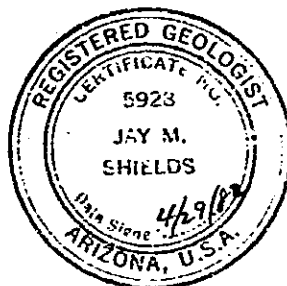
SUMMARY AND CONCLUSIONS

Six wells have been drilled on the White Sage Prospect which currently consists of 8080 acres of Federal and 640 acres of State of Arizona oil and gas leases. Five of these wells were cored, five were logged, three were acidized and foam fraced, and all were sampled in great detail. As a professional geologist, I was on site during the drilling of each well, examining the cuttings and cores, evaluating oil and gas shows, supervising the radioactive logging and the foam acidizing. In addition, data continues to accumulate on the three acidized wells. Written material relating to our geology has been checked as well as the core data records (Core Lab), the logs (Welex) and the laboratory determinations (Halliburton).

What do we know from all this data. 1) The oil gravity is very good, has contained gas and is light enough to move easily through permeable rock. 2) The porosity is variable but suitable for an oil reservoir rock. 3) The permeability is too low for the oil to move into the well bore and acid treatment has apparently not been helpful. 4) There is an oil trapping mechanism. 5) There are oil source beds. There is also the determination that we have found a Carbonate-Evaporite Basin which is an excellent, albeit challenging, locale for developing oil reserves at shallow depths.

In conclusion, work is continuing and technical data is under review to determine what might further be done. The presence of oil at very shallow depths is perhaps the most important and positive factor. If the rocks were deeper, the economics of drilling would be a serious deterrent. At 500 feet, costs might be such as to permit a controlled search for porosity-permeability simply by drilling a series of wells. The mechanics of drilling, using air, will permit a continuous test of the capacity of the rock formation to produce oil. The oil would then be free to come into the open hole. That test method, plus careful study of the rock cuttings and character, would provide sufficient data for decisions at comparatively low drilling costs.

You will be advised as further information is accumulated. I expect to have recommendations in the near future. It continues to be my geological opinion that there is sufficient evidence of oil accumulation to merit further study and further action.



EVALUATION OF 4000' TEST - WHITE SAGE PROSPECT

In White Sage, we have an excellent cap rock (Anhydrite below 400 feet. Information gained from our previous wells also indicated a successful drilling procedure. The presence of oil in the rock not only confirms the strength of our cap rock but also tends to establish the structural fold, a surface-defined anticlinal trap of approximately 1,000 acres. This oil trap should be effective at any level in the sedimentary column down to the Cambrian Muav formation. This trapping may be aided by stratigraphic changes. Our knowledge of the rock types (projected from areas in Utah and Arizona) permits the reasonable conclusion that some of them are porous and permeable. Petroleum source rocks are not as yet fully understood and their occurrence in deeper zones at White Sage can only be inferred. However, the shallow water marine depositional environment of most of the deeper formations provides a favorable source for oil in other areas such as the Devonian of Western Canada.

The deepest well drilled at White Sage (900') reached the top of the Hermit Shale at 870 feet. The Hermit and underlying Supai formation consist of red sandstones and shale. Although partly marine in origin, these formations cannot be considered very favorable for oil production. However, there are anhydrites and muddy shales in the Hermit which may provide additional cap rock, and they will be logged very carefully during drilling. The base of the Supai is estimated at approximately 2200 feet.

The first oil objective is the Callville formation, projected to be a 300-foot thick limestone of Pennsylvania Age. There is oil production from carbonates of this age in southeastern Utah. The top of the underlying Redwall limestone is at 2500 feet.

The first important oil target will be the Redwall formation, anticipated at depths from 2500 to 3200 feet. This limestone section of approximately 700 feet was deposited on a stable shelf under shallow water marine conditions which are generally favorable for oil formation and accumulation. The Redwall is reported to have produced 16,000 barrels of lower gravity oil from one well at Upper Valley in Utah, 45 miles northeast of our lease block.

The next major objective will be the Martin formation of Devonian Age. The Martin, older than the Redwall, is expected between 3200 and 3600 feet. It was also laid down under shallow water marine conditions. The sediments can be varied and include dolomites, limestones, sandstones and shales. Oil reservoir beds are probable in the sand and dolomite zones. There are also good possibilities of very porous and permeable reef development at White Sage, which is on the western flank of the Kaibab uplift, an ancient Devonian landmass. Sandstones of Devonian Age are oil productive on the Navajo Reservation in northeastern Arizona and in southeastern Utah. Rocks of this geological time period produce oil in many parts of the world.

The oldest formation to be drilled will be the Muav dolomite of Cambrian Age. There have been reports of oil shows in the upper beds of the Muav in a well about 40 miles west of White Sage. Sediments of this early geological period can be oil productive.

In summary, plans are to drill into and explore the oil possibilities of these four formations between 2400 and 4000 feet. There are approximately 1600 feet of sediments with oil potential below 2400 feet at White Sage. While the 4000-foot Test is definitely exploratory, sufficient geological information has been accumulated to provide an understanding of the nature, thickness and age of the formations to be drilled. With all available data, the oil possibilities can be considered favorable.

Form 9-331
Dec. 1973

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Form Approved
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY O & G CONS. COMM.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☒ well gas ☐ well other ☐

2. NAME OF OPERATOR
Shields Exploration Company

3. ADDRESS OF OPERATOR
320 Bellino Dr., Pacific Palisades, CA 90272

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
2-24, 2310 f E 1 & 1650 f S1
AT SURFACE: 5-24, 2310 f S 1 & 2310 f W1
AT TOP PROD. INT: 6A-24, 1647 f E 1 & 2309 f S1
AT TOTAL DEPTH: Sec 24, T41N- R1W

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☒
(other) ☐

SUBSEQUENT REPORT OF:

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☐
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☐
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5. LEASE

A-10457

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Shields Federal

9. WELL NO.

2-24, 5-24 and 6A-24

10. FIELD OR WILDCAT NAME

White Sage Prospect

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

24, T41N-R1W, G&SRBM

12. COUNTY OR PARISH

Coconino

13. STATE

Arizona

14. API NO. 02-005-20015 (2-24)
20017 (5-24) and 20018 (6A-24)

15. ELEVATIONS (SHOW DF, KDB, AND WD)
2-24 (5078'), 5-24 (5037'), 6A-24 (5066)

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

PROPOSAL FOR ABANDONMENT:

The subject Wells are proposed for Abandonment in the near future and at such time as weather conditions will permit. Federal and State Regulations will be observed and, when plans can be made, you will be advised in advance of the actual plugging and capping of each well.

As the current abandonment markers are unsightly and not environmentally suitable, it is requested that these wells be capped with a suitably inscribed steel plate welded to the top of the existing 4½" casing (approximately one to two feet above G.L.). When welded, it is further requested that rock and soil be used to cover the pipe. Please advise of your decision in the foregoing proposal.

18. I hereby certify that the foregoing is true and correct

SIGNED Jay W. Shields TITLE President DATE December 13, 1984

(This space for Federal or State office use)

APPROVED BY R.A.Y. TITLE " DATE 12/19/84
CONDITIONS OF APPROVAL, IF ANY:

Form 9-331
Dec. 1973

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

FEB 1 1983

Form Approved.
Budget Bureau No. 42-R1424

SUNDY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☐ other Strat Test

2. NAME OF OPERATOR

Shields Exploration Company

3. ADDRESS OF OPERATOR

90272

320 Bellino Dr., Pacific Palisades, CA

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.) 1647' f E line & 2309' f S

AT SURFACE:

AT TOP PROD. INTERVAL: line of Sec 24,

AT TOTAL DEPTH: T41N- R1W

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐

FRACTURE TREAT ☐

SHOOT OR ACIDIZE ☐

REPAIR WELL ☐

PULL OR ALTER CASING ☐

MULTIPLE COMPLETE ☐

CHANGE ZONES ☐

ABANDON* ☐

(other) Update of Operations

SUBSEQUENT REPORT OF:

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☐

5. LEASE

A-10457

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Shields Federal

9. WELL NO.

6A-24

10. FIELD OR WILDCAT NAME

White Sage Prospect

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

24, T41N-R1W, G&SRBM

12. COUNTY OR PARISH

Coconino

13. STATE

Arizona

14. API NO.

02-005-20018

15. ELEVATIONS (SHOW DF, KDB, AND WD)

5066'

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

January 15, 1983:

Opened 2" Valve slowly. Good blow for about one minute. Had slightly sulphury gas odor. Shut in 45 min. Then fair blow. Found top of fluid in casing @ about 350' (TD 490'--4 1/2" csg cmt @ 434'). Bailed to bottom using cable tool rig. Recovered greyish water. Droplets of live oil and iridescence in bail bucket. Request authorization of a delay in abandonment for one year. Well has some small pressure and will be monitored.

18. I hereby certify that the foregoing is true and correct

SIGNED

TITLE President

DATE

January 27, 1983

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

175

Form 9-331
Dec. 1973

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☐ other ☐ Strat Tests

2. NAME OF OPERATOR
Shields Exploration Company

3. ADDRESS OF OPERATOR
320 Bellino Dr., Pacific Palisades, CA 90272

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
2-24, 2310 f E 1 & 1650 f S 1
AT SURFACE: 5-24, 2310 f S 1 & 2310 f W 1
AT TOP PROD. INT: 6A-24, 1647 f E 1 & 2309 f S 1
AT TOTAL DEPTH: Sec 24, T41N- R1W

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐
(other) Update of Operations

SUBSEQUENT REPORT OF:

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(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Since last report on 5 / 19/82, we have monitored the #2-24, #5-24 and 6A-24 Wells on a weekly basis through 6/13/82. Wells continue to produce gas with an acid odor in #2-24 and #5-24 and gas with an acid and petroleum odor in #6A-24. Wells are not now being monitored pending the arrival of the Jim Williams Drilling rig and permitting of our new 4-well drilling program currently in the surveying stage. Locations are shown on the attached White Sage Prospect Map. Our drilling applications will be submitted to your Minerals Management Office and to the State of Arizona office on completion of the surveys.

18. I hereby certify that the foregoing is true and correct

SIGNED Raymond Shields TITLE President DATE June 23, 1982

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

Form 9-331
Dec. 1973

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Form Approved
Budget Bureau No. 42-R1424

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☐ gas ☐ other ☐ Strat Tests

2. NAME OF OPERATOR
Shields Exploration Company

3. ADDRESS OF OPERATOR
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FRACTURE TREAT ☐

SHOOT OR ACIDIZE ☐

REPAIR WELL ☐

PULL OR ALTER CASING ☐

MULTIPLE COMPLETE ☐

CHANGE ZONES ☐

ABANDON* ☐

(other) Update of Operations ☐

SUBSEQUENT REPORT OF:

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Since last report on 4/27/82, we met with John Wagner, Bob Kohlbusch and Norm Slick at USGS Headquarters in Bakersfield, CA (April 29) for a discussion of the wells, cores, samples and significant features of the stratigraphy.

The Shields Federal #2-24, #5-24 and 6A-24 Wells are now monitored every Sunday. Last bailing was 4/13/82 with no oil recovered (see- April 27 Report).

Currently, on May 16, Well #2-24 had a strong acid odor, #5-24 had an acid to neutral odor and #6A-24 had a very strong petroleum odor when 2" valve was opened. All wells flowed some water vapor with a waxy feel

18. I hereby certify that the foregoing is true and correct

SIGNED Raymond Shields TITLE President DATE May 19, 1982

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CONDITIONS OF APPROVAL, IF ANY:

TITLE _____ DATE _____

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MAY 24 1982

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*See instructions on reverse side

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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Budget Bureau No. 42-R1424

SUNDRY NOTICES AND REPORTS ON WELLS

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Shields Exploration Company

3. ADDRESS OF OPERATOR
320 Bellino Dr., Pacific Palisades, CA 90272

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AT TOP PROD. INT: 6A-24, 1647 f E 1 & 2309 f S1
AT TOTAL DEPTH: Sec 24, T41N- R1W

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REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐

SUBSEQUENT REPORT OF:

(other) Update of Operations

5. ☐

A-10457

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Shields Federal

9. WELL NO.
2-24, 5-24 and 6A-24

10. FIELD OR WILDCAT NAME
White Sage Prospect

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

24, T41N-R1W, G&SRBM

12. COUNTY OR PARISH 13. STATE
Coconino Arizona

14. API NO. 02-005-20015 (2-24)
20017 (5-24) and 20018 (6A-24)

15. ELEVATIONS (SHOW DF, KDB, AND WD)
2-24 (5072'), 5-24 (5037'), 6A-24 (5066')

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

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Since last report, 4/13/82, the Shields Federal #2-24, 5-24 and 6A-24 wells continue to be monitored. There has been no change in their performance. Well #6A-24 continues to be reported as having a strong crude-refinery odor. Gauge pressure is 3# with gases coming up through 4" ID casing. The wells were swabbed last week. No oil reported. Recovered 6 feet of fluid in #2-24, 6 feet in #5-24 and 25 feet in #6A-24. I would like to continue to monitor these wells on a weekly basis for the time being. Your cooperation will be greatly appreciated. Logs of all wells except Shields #1-24 (not logged) are in the mail to you, plus a review of our results to date. Please note a change in your file. Elevation resurveyed at #2-24. Change 5078' to 5072'

RECEIVED

MAY 3 1982

O & G CONS. COMM.

18. I hereby certify that the foregoing is true and correct

SIGNED Raymond J. Smith TITLE President DATE April 27, 1982

(This space for Federal or State office use)

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CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

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Form 9-331
Dec. 1973

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☐ gas ☐ other ☐ Strat Tests

2. NAME OF OPERATOR
Shields Exploration Company

3. ADDRESS OF OPERATOR
320 Bellino Dr., Pacific Palisades, CA 90272

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
2-24, 2310 f E 1 & 1650 f S 1
AT SURFACE: 5-24, 2310 f S 1 & 2310 f W 1
AT TOP PROD. INT. 6A-24, 1647 f E 1 & 2309 f S 1
AT TOTAL DEPTH: Sec 24, T41N- R1W

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐
(other) Update of Operations

SUBSEQUENT REPORT OF:

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5. LEASE

A-10457

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Shields Federal

9. WELL NO.

2-24, 5-24 and 6A-24

10. FIELD OR WILDCAT NAME

White Sage Prospect

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

24, T41N-R1W, G&SRBM

12. COUNTY OR PARISH

Coconino

13. STATE

Arizona

14. API NO. 02-005-20015 (2-24)

20017 (5-24) and 20018 (6A-24)

15. ELEVATIONS (SHOW DF, KDB, AND WD)

2-24 (5078'), 5-24 (5037'), 6A-24 (5066')

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Since last report - 3/15/82, the SF #2-24, SF #5-24 and SF #6A-24 continue to be monitored. There has been little change in their performance. A second gas sample taken on March 21 was analyzed by Core Lab as almost entirely made up of nitrogen and carbon dioxide. Bailing on March 12 recovered less fluid than previously and no oil. Next bailing, depending on availability of driller, scheduled for this month. Well pressures are stable and will now be checked on a weekly basis. Well #6A-24 continues to be reported with strong petroleum-crude oil odor.

RECEIVED

APR 19 1982

O & G CONS. COMM.

18. I hereby certify that the foregoing is true and correct

SIGNED

Ray M. Shields

TITLE President

DATE April 13, 1982

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

*See Instructions on Reverse Side

775

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☐ gas ☐ other ☐ Strat Tests
2. NAME OF OPERATOR
Shields Exploration Company
3. ADDRESS OF OPERATOR
320 Bellino Dr., Pacific Palisades, CA 90272
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
2-24, 2310 f E 1 & 1650 f S 1
AT SURFACE: 5-24, 2310 f S 1 & 2310 f W 1
AT TOP PROD. INT: 6A-24, 1647 f E 1 & 2309 f S 1
AT TOTAL DEPTH: Sec 24, T41N- R1W
16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

- TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐
(other) Update of Operations

SUBSEQUENT REPORT OF:

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(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Since last report 2/23/82, the #2-24, #5-24 and 6A-24 wells continue to be monitored and bailed. Wells are now checked twice a week and bailed once every two weeks. Details of last bail 3/12 not available. All three wells were bailed. Recovery was slightly foamy water with rainbows. Latest monitor 3/14/82. Very windy. #2-24, 1 1/2 psi - strong odor. Bled down in 2 1/2 min; #5-24, 1 psi - slight acid petroleum odor. Lots of color. Bled down in 5 1/2 min; #6A-24, 2 1/2 psi - petroleum odor. Lots of color. Bled down in 58 min. Core Lab, Inc. submitted report on gas sample from 6A-24 (attached). High nitrogen (70%) would indicate continued blow back after treating. High carbon dioxide would indicate successful acidization of formation dolomite. Very low hydrocarbon content was a surprise as 6A-24 has been reported for some time as having a strong petroleum odor, ie: similar to odor of oil in cores. It is probable that the well flowed a slug of N₂ and CO₂ during the sampling period and on occasion otherwise. Another gas sample will be taken 3/21.

18. I hereby certify that the foregoing is true and correct

SIGNED Jay M. Shields TITLE President DATE March 15, 1982

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

RECEIVED

MAR 17 1982

O & G CONS. COMM.

*See Instructions on Reverse Side

Form 9-331
Dec. 1973

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

RECEIVED

MAR 1-1982

Form Approved
Budget Bureau No. 42-R1424

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☐ gas ☐ other ☐ Strat Tests

2. NAME OF OPERATOR
Shields Exploration Company

3. ADDRESS OF OPERATOR
320 Bellino Dr., Pacific Palisades, CA 90272

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
2-24, 2310 f E 1 & 1650 f S 1
AT SURFACE: 5-24, 2310 f S 1 & 2310 f W 1
AT TOP PROD. INT: 6A-24, 1647 f E 1 & 2309 f S 1
AT TOTAL DEPTH: Sec 24, T41N- R1W

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO: SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF ☐ ☐
FRACTURE TREAT ☐ ☐
SHOOT OR ACIDIZE ☐ ☐
REPAIR WELL ☐ ☐
PULL OR ALTER CASING ☐ ☐
MULTIPLE COMPLETE ☐ ☐
CHANGE ZONES ☐ ☐
ABANDON* ☐ ☐
(other) Update of Operations ☐ ☐

5. LEASE
A-10457
6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Shields Federal
9. WELL NO.
2-24, 5-24 and 6A-24
10. FIELD OR WILDCAT NAME
White Sage Prospect
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
24, T41N-R1W, G&SRBM
12. COUNTY OR PARISH 13. STATE
Coconino Arizona
14. API NO. 02-005-20015 (2-24)
20017 (5-24) and 20018 (6A-24)
15. ELEVATIONS (SHOW DF, KDB, AND WD)
2-24 (5078'), 5-24 (5037'), 6A-24 (5066')

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Since last report (2/2/82), the 2-24, 5-24 and 6A-24 wells continue to be monitored and bailed when possible. Latest schedule is to monitor every 3 days subject to road conditions and bail every 10 to 14 days depending on availability of driller. The Cluff cable tool rig is on site. Wells have been equipped with reducers, gauges and small fittings to 1/2" for more accurate check of pressure and odor and for gas sampling. Gas sample was not obtained from 6A-24 due to valve problem. I was at the lease on 2/14 and 2/15 and witnessed monitoring procedures and also filled 3 Core Lab gas cylinders @ 6A-24. Driller bailed on 2/15. Drilling conditions were terrible due to thaw of 8" snow pack and #5-24 could not be reached. Driller bailed #2-24 (a few gals of acid water) and #6-24 (about 16 gals clear foamy water with oil iridescence on bubbles and slight acid odor). Next bailing is scheduled for 2/25/82. Gas cylinders are at Core Lab for analysis (3/1). Latest monitor report 2/22/82: #2-24, 1 1/2# pressure, acid to slightly oily odor; #5-24, 1 1/2# pressure, acid-oily odor; #6A-24, 4# pressure, strong gas-oil odor. Pressure bled down in 37 min. After discussion with Core Lab it appears fairly certain that the gas is coming out of the 34°-36° gravity oil reservoir & not natural gas from a pocket. This gas solution drive has not brought in any oil as yet.

18. I hereby certify that the foregoing is true and correct.

SIGNED [Signature] TITLE President DATE February 23, 1982

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

775

Form 9-331
Dec. 1973

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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FEB 4 1982

Form Approved
Budget Bureau No. 42-R1424

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☐ other ☐ Strat Tests

2. NAME OF OPERATOR
Shields Exploration Company

3. ADDRESS OF OPERATOR
320 Bellino Dr., Pacific Palisades, CA 90272

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
2-24, 2310 f E 1 & 1650 f S 1
AT SURFACE: 5-24, 2310 f S 1 & 2310 f W 1
AT TOP PROD. INT: 6A-24, 1647 f E 1 & 2309 f S 1
AT TOTAL DEPTH: Sec 24, T41N- R1W

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐
(other) Update of Operations

SUBSEQUENT REPORT OF:

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(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Since last report (1/25/82) the subject wells have been monitored when possible. Due to bad weather and a rig breakdown, they were not bailed down until 1/30/82. Recovery was 3 gals of foamy acid water in #2-24, 11 gals of slightly acid water in #5-24 and 16 gals of foamy, milky to tan brown water in #6-24. Latest report, 2/1/82, after 24 hr shut-in: #2-24 slight press, gassy to neutral odor; #5-24 slight press, gassy and acid odor; #6A-24 gd press, gassy odor.

Water sample analysis showed very high chlorides (105,000ppm) and high Ca (27,000ppm) & Mg (16,000ppm) in #2-24; fairly high chlorides (22,000ppm) and Ca (10,000ppm) in #5-24; and readings approaching fresh water in #6A-24. Wax sample was in the paraffin family. It is possible that #5-24 may be treated with xylene if necessary. Gas sample was obtained from #6A-24 on 1/31/82 and sent to Core Lab in CA for analysis. I may go over to the lease this week-end.

18. I hereby certify that the foregoing is true and correct

SIGNED [Signature] TITLE President DATE February 2, 1982
(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Form Approved.
Budget Bureau No. 42-R1424

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☐ other Strat Tests

2. NAME OF OPERATOR
Shields Exploration Company

3. ADDRESS OF OPERATOR
320 Bellino Dr., Pacific Palisades, CA 90272

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
2-24, 2310 f E 1 & 1650 f S1
AT SURFACE: 5-24, 2310 f S 1 & 2310 f W1
AT TOP PROD. INT 6A-24, 1647 f E 1 & 2309 f S1
AT TOTAL DEPTH: Sec 24, T41N- R1W

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐

(other) Update of Operations

SUBSEQUENT REPORT OF:

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(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Since last report (1/16/82), the subject wells have been monitored on a daily basis and were last bailed on 1/16. There was no oil recovered but samples of water were shipped to the Halliburton Lab in California for analysis. Also turned to Lab was a sample of the waxy paraffine material found in #5-24. Results will be made available.

On 1/17, a strong gas odor was noted in #6A-24 plus an oily vapor. Pressure seemed stronger but registered only 1½ psi. Core Lab in LA dispatched w vacuum bottles to our agent in Kanab, Bob West. He will fill one bottle from #6A-24 and return at once for detailed analysis (CO₂, N₂, H₂S, SO₂, Methane, Propane, etc.). Results will be communicated.

During the week, the weather moved in and wells could not be bailed. Due also to a mechanical problem, next attempt will be made on 1/28.

18. I hereby certify that the foregoing is true and correct

SIGNED

[Signature]

President

DATE January 26, 1982

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

5. LEASE

A-10457

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Shields Federal

9. WELL NO.

2-24, 5-24 and 6A-24

10. FIELD OR WILDCAT NAME

White Sage Prospect

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

24, T41N-R1W, G&SRBM

12. COUNTY OR PARISH

Coconino

13. STATE

Arizona

14. API NO. 02-005-20015 (2-24)

20017 (5-24) and 20018 (6A-24)

15. ELEVATIONS (SHOW DF, KDB, AND WD)

2-24 (5078'), 5-24 (5037'), 6A-24 (5066')

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JAN 28 1982

O & G CONS. COMM.

RECEIVED
DEC 1982

JAN 20 1982
O & G CONS. COMM.

UNIT STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☐ gas ☐ other ☒ Strat Tests
2. NAME OF OPERATOR
Shields Exploration Company
3. ADDRESS OF OPERATOR
320 Bellino Dr., Pacific Palisades, CA 90272
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
2-24, 2310 f E 1 & 1650 f S 1
AT SURFACE: 5-24, 2310 f S 1 & 2310 f W 1
AT TOP PROD. INT 6A-24, 1647 f E 1 & 2309 f S 1
AT TOTAL DEPTH: Sec 24, T41N- R1W

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

- TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐

SUBSEQUENT REPORT OF:

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17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Since last report (1/6/82), the subject wells continued to be bailed on a daily basis until 1/12/82. On that date, Jim Williams Well Drilling, the contractor, moved their rig back to base @ Prescott, Arizona. As of 1/13/82, wells will be checked on a daily basis for pressures and odor, and bailed using cable tool rig (Cluff Drilling Company) every fifth day. Average daily fluid recoveries to 1/12/82 were: #2-24, 1-2 gals; #5-24, 1-2 gals; #6A-24, 4-5 gals. All fluid appeared to be foamy with spent acid odor. There is no oil to date. Valves and guages have been installed. When shut in, all wells build pressures of less than 10 psi. The three wells now have gas odor when opened. Gas will not light.

Monitoring continues. Any significant change will be reported promptly.

18. I hereby certify that the foregoing is true and correct

SIGNED Raymond Shields TITLE President DATE January 16, 1982

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

5. L A-10457
6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Shields Federal
9. WELL NO.
2-24, 5-24 and 6A-24
10. FIELD OR WILDCAT NAME
White Sage Prospect
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
24, T41N-R1W, G&SRBM
12. COUNTY OR PARISH
Coconino
13. STATE
Arizona
14. API NO. 02-005-20015 (2-24)
20017 (5-24) and 20018 (6A-24)
15. ELEVATIONS (SHOW DF, KDB, AND WD)
2-24 (5078'), 5-24 (5037'), 6A-24 (5066')

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

775

Form 9-331
Dec. 1973

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Form Approved
Budget Bureau No. 42-R147

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
O & G CONS. COMM.

JAN 11 1982

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☐ other Strat Tests

2. NAME OF OPERATOR
Shields Exploration Company

3. ADDRESS OF OPERATOR
320 Bellino Dr., Pacific Palisades, CA 90272

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
2-24, 2310 f E 1 & 1650 f S 1
AT SURFACE: 5-24, 2310 f S 1 & 2310 f W 1
AT TOP PROD. INT: 6A-24, 1647 f E 1 & 2309 f S 1
AT TOTAL DEPTH: Sec 24, T41N- R1W

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO: SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF ☐ ☐
FRACTURE TREAT ☐ ☐
SHOOT OR ACIDIZE ☐ ☐
REPAIR WELL ☐ ☐
PULL OR ALTER CASING ☐ ☐
MULTIPLE COMPLETE ☐ ☐
CHANGE ZONES ☐ ☐
ABANDON* ☐ ☐
(other) Update of Operations

5. LEASE

A-10457

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Shields Federal

9. WELL NO.
2-24, 5-24 and 6A-24

10. FIELD OR WILDCAT NAME
White Sage Prospect

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

24, T41N-R1W, G&SRBM

12. COUNTY OR PARISH 13. STATE
Coconino Arizona

14. API NO. 02-005-20015 (2-24)
20017 (5-24) and 20018 (6A-24)

15. ELEVATIONS (SHOW DF, KDB, AND WD)
2-24 (5078'), 5-24 (5037'), 6A-24 (5066)

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Since last report, the subject wells continue to be bailed on a daily basis. Recovery includes slightly foamy, spent acid water with a brownish color (#2 and #5) and a blackish color (#6A). There is an acid odor.

When shut in for 24 hours, all wells build pressure. Reducers from 4" T to 2" and valves are being installed on #5 and #6A. Gauges are planned for each well. There has been no indication of hydrocarbons excepting iridescence in recovered fluid, a natural gas odor in #5 when first opened, and the recovery of a small amount of cloudy white paraffin in the 3 wells.

Monitoring will continue with any changes reported.

18. I hereby certify that the foregoing is true and correct

SIGNED [Signature] TITLE President DATE January 6, 1982

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL IF ANY:

*See Instructions on Reverse Side

775

Form 9-331
Dec. 1973

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☐ other Strat Test

2. NAME OF OPERATOR

Shields Exploration Company

3. ADDRESS OF OPERATOR 90272

320 Bellino Dr., Pacific Palisades, CA

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.) 1647' f E line & 2309' f S

AT SURFACE:

AT TOP PROD. INTERVAL: line of Sec 24,

AT TOTAL DEPTH: T41N- R1W

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐

FRACTURE TREAT ☐

SHOOT OR ACIDIZE ☐

REPAIR WELL ☐

PULL OR ALTER CASING ☐

MULTIPLE COMPLETE ☐

CHANGE ZONES ☐

ABANDON* ☐

(other) Update of Operations

SUBSEQUENT REPORT OF:

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5. LEASE

A-10457

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Shields Federal

9. WELL NO.

6A-24

10. FIELD OR WILDCAT NAME

White Sage Prospect

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

24, T41N-R1W, G&SRBM

12. COUNTY OR PARISH

Coconino

13. STATE

Arizona

14. API NO.

02-005-20018

15. ELEVATIONS (SHOW DF, KDB, AND WD)

5066'

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

On 12/10/81, Halliburton cemented 4 1/2" - 10.5# - K S csg @ 434' (after hole was filled with sand from TD 491 to 442') using 40 sax cmt, float collar and float shoe. Plug bumped without any returns to surface. Drilled out plug and shoe and hard cement to top sand and cleaned out sand to TD @ 491'. On 12/13/81, well was fracd using 1000 gals of 15% HCL foamed with N₂ - Solution was put away with pressures to 1000 psi. Well flowed back N₂ foam and acidic water and is currently being bailed.

18. I hereby certify that the foregoing is true and correct

SIGNED

President

DATE December 18, 1981

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

RECEIVED

JAN 4 1982

O & G CONS. COMM.

*See Instructions on Reverse Side

775

RECEIVED
DEC 10 1981

O & G CONS. COMM.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Form Approved
Budget Bureau No. 42-R1424

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☐ other ☒ Strat Test

2. NAME OF OPERATOR
Shields Exploration Company

3. ADDRESS OF OPERATOR 90272
320 Bellino Dr. Pacific Palisades, CA

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1647' f E line and 2309' f
AT TOP PROD. INTERVAL: S line of Sec 24
AT TOTAL DEPTH:

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐

SUBSEQUENT REPORT OF:

(other) Update of Operations

5. LEASE

A-10457

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Shields Federal

9. WELL NO.
6A-24

10. FIELD OR WILDCAT NAME
White Sage Prospect

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
24, T41N-R1W G&SRBM

12. COUNTY OR PARISH 13. STATE
Coconino Arizona

14. API NO.
02-005-20018

15. ELEVATIONS (SHOW DF, KDB, AND WD)
5066'

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Jim Williams Well Drilling: The SF #6A-24 was spudded @ 11:37 AM, Monday, December 1, 1981. Ran 7", 20.5#, J55 csg @ 60'. Using 10" hammer drill, drill shaft broke @ 23'. Rec. Drld ahead to 60' with 8" hammer drill. Cemented csg with 15sax. Drld out with 6 1/2" Hammer drill to coring point @ 465'. Cored 465' - 473'. Recovered 8' of core. Reamed to 473' with 6 1/2" roller bit. Drld ahead to 491' TD on Dec. 7, 1981. WELEX logged using Dual Induction-Gamma and Density-Gamma. Also logged SF # 2-24, 4-24, 5-24 and the Travis #1-24 (DI only) Halliburton moving in today to cement 4 1/2" csg on 12/10/81 and acidize 12/12/81.

18. I hereby certify that the foregoing is true and correct

SIGNED Ray Shields TITLE President DATE December 9, 1981

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

775

Form 9-331
RECEIVED 1973

DEC 7 1981

O & G CONS. COMM.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☐ gas ☐ other ☒ Strat Test

2. NAME OF OPERATOR

Shields Exploration Company

3. ADDRESS OF OPERATOR 90272

320 Bellino Dr., Pacific Palisades, CA

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.) 1647' f E line & 2309' f S

AT SURFACE: line of

AT TOP PROD. INTERVAL: Sec 24, T41N-R1W

AT TOTAL DEPTH:

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐

FRACTURE TREAT ☐

SHOOT OR ACIDIZE ☐

REPAIR WELL ☐

PULL OR ALTER CASING ☐

MULTIPLE COMPLETE ☐

CHANGE ZONES ☐

ABANDON* ☐

(other) Change of Location of Well SF 6-24

SUBSEQUENT REPORT OF

GEOLOGICAL SURVEY
RECEIVED

DEC 2 1981

BAKERSFIELD

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

Form Approved.
Budget Bureau No. 42-R1

5. LEASE

A-10457

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Shields Federal

9. WELL NO.

6A-24

10. FIELD OR WILDCAT NAME

White Sage Prospect

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

24, T41N-R1W, G&SRBM

12. COUNTY OR PARISH 13. STATE

Coconino

Arizona

14. API NO.

02-005-20018

15. ELEVATIONS (SHOW DF, KDB, AND WD)

5066'

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

As a result of information obtained from cores of the Shields Federal #2-24 and #5-24, it is necessary to change the location of the Shields Federal 6-24 from the NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 24, T41N-R1W to the NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 24, T41N-R1W about 1900' to the Southeast. Attached is a Survey of the new location. Please note the well name is now Shields Federal #6A-24. Your cooperation is much appreciated.

Verbal Okay given 11/23/81 AKS

18. I hereby certify that the foregoing is true and correct

SIGNED J. P. Wagner TITLE President DATE November 30, 1981

(This space for Federal or State office use)

APPROVED BY J. P. Wagner TITLE Dist. Supervisor DATE 12-4-81
CONDITIONS OF APPROVAL, IF ANY: J. P. Wagner

cc: DGM, O & G, Western Region

Oil & Gas Conservation Commission

State of Arizona, Phoenix, AZ

J. Stout, USGS, Ely, Nevada

*See Instructions on Reverse Side

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER			RECEIVED
APPLICATION TO DRILL <input checked="" type="checkbox"/>		RE-ENTER OLD WELL <input type="checkbox"/>	DEC 1 1981
			O & G CONS. COMM.
SHIELDS EXPLORATION COMPANY			
NAME OF COMPANY OR OPERATOR 320 Bellino Drive, Pacific Palisades, California 90272			
Address City State			
JIM WILLIAMS WELL DRILLING CO.			
Drilling Contractor 737 3rd Street, Prescott, Arizona 86301			
Address			
DESCRIPTION OF WELL AND LEASE			
Federal, State or Indian Lease Number, or if fee lease, name of lessor Federal #A 10457		Well number #6A-24 Shields Federal	Elevation (ground) 5066'
Nearest distance from proposed location to property or lease line: E 4287 feet		Distance from proposed location to nearest drilling, completed or applied-for well on the same lease: 370 feet	
Number of acres in lease: 2558.12		Number of wells on lease, including this well, completed in or drilling to this reservoir: 6	
If lease, purchased with one or more wells drilled, from whom purchased: Name Address			
Well location (give footage from section lines) 1647' f E line & 2309' f S 1n		Section-township-range or block and survey 24 T41N R1W G&SRBM	Dedication (Comply with Rule 105) Strat test
Field and reservoir (if wildcat, so state) Wildcat		County Coconino	
Distance in miles, and direction from nearest town or post office Fredonia is 11 miles West			
Proposed depth: 470'	Rotary or cable tools Rotary	Approx. date work will start December 1, 1981	
Bond Status: on file	Organization Report	Filing Fee of \$25.00	
Amount \$25,000.	On file <input checked="" type="checkbox"/> Or attached	Attached <input checked="" type="checkbox"/>	
Remarks: Change of location of Shields Federal #6-24 as per attached Sundry Notice - Well Number changed to #6A-24. Plan to drill to approximately 450', core, log and test.			
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the President of the Shields Exploration Company (company), and that I am authorized by said company to make this report, and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.			
Signature November 30, 1981 Date			
Permit Number: 2-27875 Approval Date: 12-2-81 Approved By: R. A. Yana		STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Application to Drill or Re-enter File Two Copies Form No. 3	
Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.			

1. Operator shall outline the dedicated acreage for both oil and gas wells on the plat.

2. A registered professional engineer or land surveyor registered in the State of Arizona or approved by the Commission shall locate the well on the plat the location of the well and certify this information in the space provided.

RECEIVED

DEC 1 1981

3. ALL DISTANCES SHOWN ON THE PLAT MUST BE FROM THE OUTER BOUNDARIES OF THE SECTION.

O & G CONS. COMM.

4. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES _____ NO X

5. If the answer to question four is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES X NO _____. If answer is "yes," Type of Consolidation Limited Partnership

6. If the answer to question four is "no," list all the owners and their respective interests below:

Owner	Land Description
	NE 1/4 NW 1/4 SE 1/4 Sec 24 41N-1W
	STRAT TEST #6-A-24

CERTIFICATION	
I hereby certify that the information above is true and complete to the best of my knowledge and belief.	
Name	JAY M. SHIELDS
Position	PRESIDENT
Company	Shields Exploration Co.
Date	11/29/81

CERTIFICATION	
I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.	
Date Surveyed	11-29-81
Registered Professional Engineer and/or Land Surveyor	Philip L. Drake
Certificate No.	LS 4876 UT.

PROPOSED CASING PROGRAM							
Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement	Type
7"	20.5#	J55	0	80	80	31	Port
4 1/2"	10.5#	J55	0	440+	440+	40	2

775

Form 9-331
Dec. 1973

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☐ other ☒ Strat Test

2. NAME OF OPERATOR

Shields Exploration Company

3. ADDRESS OF OPERATOR 90272
320 Bellino Dr., Pacific Palisades, CA

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.) 1647' f E line & 2309' f S
AT SURFACE: line of
AT TOP PROD. INTERVAL: Sec 24, T41N-R1W
AT TOTAL DEPTH:

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐

SUBSEQUENT REPORT OF:

☐
☐
☐
☐
☐
☐
☐
☐

(other) Change of Location of Well SF 6-24

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

As a result of information obtained from cores of the Shields Federal #2-24 and #5-24, it is necessary to change the location of the Shields Federal 6-24 from the NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 24, T41N-R1W to the NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 24, T41N-R1W about 1900' to the Southeast. Attached is a Survey of the new location. Please note the well name is now Shields Federal #6A-24. Your cooperation is much appreciated.

18. I hereby certify that the foregoing is true and correct

SIGNED

Jay L. Shields

TITLE President

DATE November 30, 1981

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

Form Approved.
Budget Bureau No. 42-R1424

5. LEASE

A-10457

6. IF INDIAN, ALLOTTEE OR TRIBAL

RECEIVED

7. UNIT AGREEMENT NAME

DEC 1 1981

8. FARM OR LEASE NAME

O & G CONS. COMM.
Shields Federal

9. WELL NO.

6A-24

10. FIELD OR WILDCAT NAME

White Sage Prospect

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

24, T41N-R1W, G&SRBM

12. COUNTY OR PARISH

Coconino

13. STATE

Arizona

14. API NO.

02-005-20018

15. ELEVATIONS (SHOW DF, KDB, AND WD)

5066'

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

175

On Nov. 3 & 4, 1981, A. K. Doss and I visited the well site area in Coconino Co. where Jay M. Shields, operator, was preparing to drill wells

2-24 Federal	(Permit 771)
4-24 Federal	" 772
5-24 Federal	" 774
6-24 Federal	" 775

Approval to drill these wells had been granted to the operator by the primary agency, USGS, and this Commission

Our visit revealed that the operator was planning to deviate from the approved drilling program without notifying the agencies, as follows:

1. Change the method of cementing the surface casing from conventional displacement method to that of cementing the annulus from the surface.
2. Not make any provision for blowout prevention equipment while drilling below the surface casing.

We informed Bob Kohlbush of the USGS office in Bakersfield, Calif., of the situation and he concurred with our recommendation that the operator cement the surface casing and provide the well with adequate blowout prevention equipment as originally approved.

The operator was informed and agreed to comply with our recommendations.

R.A.Y.

R. A. Ybarra
11-9-81

Sincerely,

James A. Richardson

11/23/81 10:45 A

Verbal okay for Jay Shields to move the location of 6-24. He will send in new app and plat.
AKO

Form 9-331
Dec. 1973

SF 5-24 + SF 6-24

Form Approved
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☒ gas well ☐ other ☐ Attempted Completion

2. NAME OF OPERATOR
Shields Exploration Company

3. ADDRESS OF OPERATOR
320 Bellino Drive, Pacific Palisades CA 90272

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
5-2310' FSL + 2310' FWL
AT SURFACE: 6-1650' FSL + 2310' FWL
AT TOP PROD. INTERVAL: Sec 24
AT TOTAL DEPTH:

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:	SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF <input type="checkbox"/>	<input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	<input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	<input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	<input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	<input type="checkbox"/>
MULTIPLE COMPLETE <input type="checkbox"/>	<input type="checkbox"/>
CHANGE ZONES <input type="checkbox"/>	<input type="checkbox"/>
ABANDON* <input type="checkbox"/>	<input type="checkbox"/>
(other) Notice of Spud Date	

5. LEASE

A - 10457

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Shields Federal

9. WELL NO.

5-24 AND 6-24

10. FIELD OR WILDCAT NAME
White Sage Prospect

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 24, T41N-R1W, G&SRBM

12. COUNTY OR PARISH
Coconino

13. STATE
Arizona

14. API NO.

02-005-20072 + 18

15. ELEVATIONS (SHOW DF, KDB, AND WD)

5-24 = 5037' + 6-24 = 5002'

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Jim Williams Drilling Company: Drilling will commence on or about October 30, 1981-
The Shields Federal #2-24, 4-24, 5-24 & 6-24 will be drilled in sequence to the surface casing point at 80' and 7" casing will be run and cemented in each well allowing 24 hrs setting. Wells will then be drilled consecutively to respect. total depths, coring where indicated. Cores will be shipped to CORE LAB and HALLIBURTON for analysis. A BOP and/or Gate Valve will be used.

WELLEX: Wells will be logged using Induction, Gamma Ray and Density.

FURTHER NOTICES WILL BE FORWARDED AS OPERATIONS PROCEED

TELEPHONE COMMUNICATION WILL BE USED IF NECESSARY

Subsurface Safety Valve: Manu. and Type

Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED

TITLE

DATE

(This space for Federal or State Office Use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

RECEIVED

10/31/81

G & G CONS. COMM.

*See Instructions on Reverse Side

775

RECEIVED
Form 7-411C
(May 1963)

OCT 26 1981

O & G CONS. COMM.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse)

BLM
Form approved.
Budget Bureau No. 42-1147
5-27

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
DRILL ☒ DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL
OIL WELL ☒ GAS WELL ☐ OTHER ☐ SINGLE ZONE ☐ MULTIPLE ZONE ☐

2. NAME OF OPERATOR

JAY M. SHIELDS

3. ADDRESS OF OPERATOR

320 BELLINO DRIVE, PACIFIC PALISADES, CA 90272

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

At surface 1650' from North line & 2310' from West line of
Section 24, T41N-R1W, G&SRB Meridian
At proposed prod. zone
same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

11 MILES EAST OF FREDONIA, ARIZONA

15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT.
(Also to nearest drilg. unit line, if any)
4950' West to LL
330' to DUL

16. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
1320'

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5002' GR

18. NO. OF ACRES IN LEASE

2588.12

19. PROPOSED DEPTH

850'

17. NO. OF ACRES ASSIGNED TO THIS WELL

10

20. ROTARY OR CABLE TOOLS

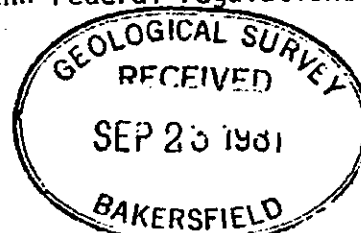
ROTARY

22. APPROX. DATE WORK WILL START*
OCTOBER 30, 1981

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
10"	7"	15#	80'	20 sx (to surface)
6 1/2"	4 1/2"	10.5# API	400' - 850'	50 sx (est.)

Drilling will be done with air. After setting and cementing 7" surface casing @ 80', a 6 1/2" hole will be drilled with coring of any oil zones in the Kaibab and Toroweap formations. Density, Gamma-Neutron and Induction logs will be run (Welex). Open hole testing is planned and, if indicated, 4 1/2" casing cemented (Halliburton) above oil zone and the interval acidized (Halliburton). This well is a north step-out to the SHIELDS FEDERAL #4-24. As there was no observed pressure in the Travis or Shields #1-24 Wells, a blowout preventer may not be necessary. All State and Federal regulations will be observed.



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED Jay M. Shields TITLE LESSEE & OPERATOR DATE SEPTEMBER 18, 1981

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

J. P. Wagner

TITLE District Supervisor

DATE 10-20-81

CONDITIONS OF APPROVAL, IF ANY: J. P. Wagner

cc: DCM, O & G, Western Region
Oil & Gas Conservation Commission
Phoenix, Arizona
J. Stout, USGS, Ely, Nevada

SEE ATTACHED CONDITIONS AND REQUIREMENTS

775

Form 9-1123
(Rev. Dec. 1951)

(Submit in triplicate to appropriate
Regional Oil and Gas or Mining Supervisor)

DESIGNATION OF OPERATOR

RECEIVED

SEP 16 1981

O & G CONS. COMM.

The undersigned is, on the records of the Bureau of Land Management, holder of lease

DISTRICT LAND OFFICE:
SERIAL NO.: A 10457

and hereby designates

NAME: JAY M. SHIELDS
ADDRESS: 320 BELLINO DRIVE, PACIFIC PALISADES, CA 90272

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Operating Regulations with respect to (describe acreage to which this designation is applicable):

T 41 N - R 1 W.
Sec. 23, E $\frac{1}{2}$; Sec. 24, All; Sec. 25, All; Sec. 26, E $\frac{1}{2}$;
T 41 N - R 1 E.
Sec. 19, Lots 1, 2, 3, 4 and E $\frac{1}{2}$ W $\frac{1}{2}$;
Sec. 30, Lots 1, 2, 3, 4 and E $\frac{1}{2}$ W $\frac{1}{2}$.,
containing 2558.12 acres, Coconino County, Arizona.

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

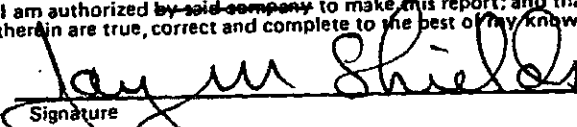
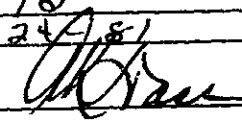
In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees promptly to notify the supervisor of any change in the designated operator.

Jay M. Shields
(Signature of lessee)

SEPTEMBER 15, 1981
(Date)

320 BELLINO DRIVE, PACIFIC PALISADES, CA 90272
(Address)

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER		RECEIVED
APPLICATION TO DRILL <input checked="" type="checkbox"/>		RE-ENTER OLD WELL <input type="checkbox"/> SEP 23 1981
JAY M. SHIELDS		O & G CONS. COMM.
NAME OF COMPANY OR OPERATOR		
320 BELLINO DRIVE, PACIFIC PALISADES,		CALIFORNIA 90272
Address		City State
JIM WILLIAMS DRILLING COMPANY		
Drilling Contractor		Address
737 3rd STREET		PRESCOTT ARIZONA 86301
DESCRIPTION OF WELL AND LEASE		
Federal, State or Indian Lease Number, or if fee lease, name of lessor		Well number
FEDERAL #A 10457		SHIELDS FEDERAL #6-24
Nearest distance from proposed location to property or lease line:		Elevation (ground)
4950' west feet		5002'
Number of acres in lease:		Distance from proposed location to nearest drilling, completed or applied—for well on the same lease:
2588.12		1320' feet
If lease, purchased with one or more wells drilled, from whom purchased:		Number of wells on lease, including this well, completed in or drilling to this reservoir:
Name		3
Address		
Well location (give footage from section lines)		Dedication (Comply with Rule 105)
1650' from N & 2310' from W lines		STRAT TEST
Section—township—range or block and survey		Field and reservoir (if wildcat, so state)
24, 41N-1W G&SRB M		WILDCAT
County		Distance in miles, and direction from nearest town or post office
COCONINO		FREDONIA IS 11 MILES WEST
Proposed depth:		Rotary or cable tools
850'		ROTARY
Approx. date work will start		Bond Status
OCTOBER 30, 1981		On file
Filing Fee of \$25.00		Amount
Attached X		\$25,000
Remarks:		
Plan to drill, coring where indicated, to approximately 850' using 6½" Hammer Drill with Air, then log (Welex) using Density, Gamma-Neutron and Induction. Cores will be sent to Core Lab for testing.		
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the <u>LESSEE-OPERATOR</u> of the <u>WHITE SAGE PROSPECT</u> (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.		
 Signature		
SEPTEMBER 18, 1981 Date		
Permit Number: <u>775</u>		STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Application to Drill or Re-enter File Two Copies Form No. 3
Approval Date: <u>9-24-81</u>		
Approved By: 		
Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.		

(Complete Reverse Side)

1. Operator shall outline the dedicated acreage for both oil and gas wells on the plat.

2. A registered professional engineer or land surveyor registered in the State of Arizona or approved by the Commission shall show on the plat the location of the well and certify this information in the space provided.

RECEIVED

3. ALL DISTANCES SHOWN ON THE PLAT MUST BE FROM THE OUTER BOUNDARIES OF THE SECTION. SEP 23 1981

4. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES ☒ NO ☐ O & G CONS. COMM.

5. If the answer to question four is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES ☐ NO ☐ If answer is "yes," Type of Consolidation _____

6. If the answer to question four is "no," list all the owners and their respective interests below:

Owner	Land Description NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 24, T41N - R1W
<div style="display: flex; justify-content: space-between;"><div style="width: 45%;"><p>Township 41 North</p><p>1650'</p><p>2310'</p><p>Shields Federal #6-24 Elev: 5002'</p><p>24</p><p>Range 1 West</p></div><div style="width: 50%; border: 1px solid black; padding: 5px;"><p>CERTIFICATION</p><p>I hereby certify that the information above is true and complete to the best of my knowledge and belief.</p><p>Name <u>Philip L. Drake</u></p><p>Position <u>Operator - Jensen</u></p><p>Company _____</p><p>Date <u>9/21/81</u></p><p>I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.</p><p>Date Surveyed <u>9-13-81</u></p><p>Registered Professional Engineer and/or Land Surveyor <u>Philip L. Drake</u></p><p>Certificate No. <u>L.S. 4876 UT.</u></p></div></div>	

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement	Type
7"	15#	.231	surf.	80'	0' - 80'	20 sx(to surf)	Portland
4 1/2" (If needed)	10.5#	2-API					



PERMIT TO DRILL

This constitutes the permission and authority from the

OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: JAY M. SHIELDS
(OPERATOR)

to drill a well to be known as

12-2-81 location change 6-24 FEDERAL
(WELL NAME)
located 2307 South 1647 East
1650' FROM NORTH LINE, 2310' FROM WEST LINE (SE NW) NW SE

Section 24 Township 41 NORTH Range 1 WEST COCONINO County, Arizona.

The N/A of said
Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled
in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 24th day of September, 19 81.

OIL AND GAS CONSERVATION COMMISSION

By [Signature]
EXECUTIVE SECRETARY

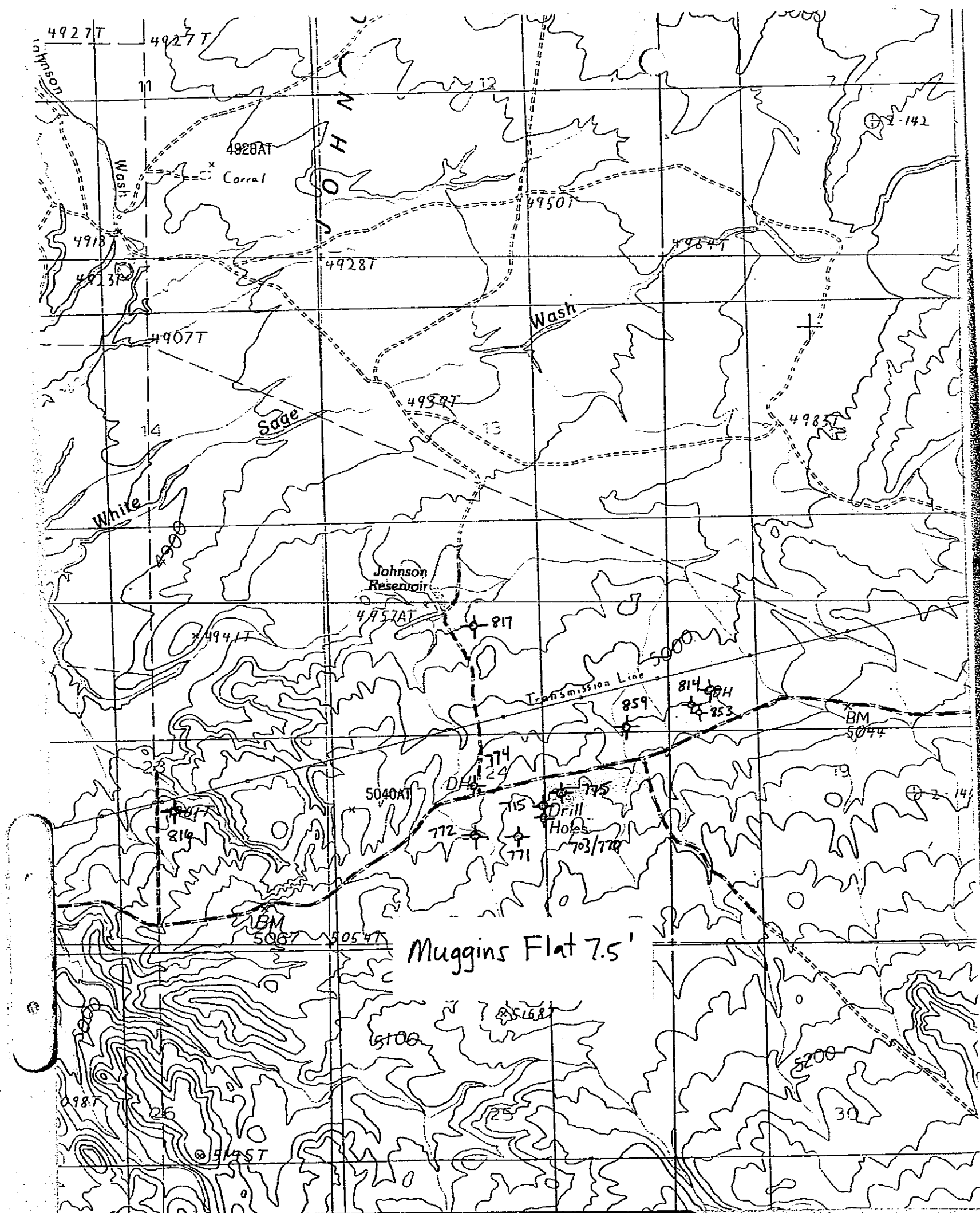
PERMIT N° 775

RECEIPT NO. 2141
API NO. 02-005-20018

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill

FORM NO. 27

TEN FOOT SAMPLES ARE REQUIRED FROM SURFACE





Jane Dee Hull
Governor

State of Arizona
Arizona Geological Survey

416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500



Larry D. Fellows
Director and State Geologist

September 29, 1997

Margaret M. Shields
Shields Exploration Company
320 Bellino Drive
Pacific Palisades, CA 90272

file 775

Re: Shields Exploration Company
\$25,000 Oil Drilling Blanket Bond #KO 01 75 675
Insurance Company of North America

Dear Ms. Shields:

Records of the Oil and Gas Conservation Commission of the State of Arizona show that Shields Exploration Company has no outstanding drilling or plugging obligations in Arizona. As a result, this letter constitutes written permission by the Commission to terminate liability under the bond.

Please advise if we may be of further service.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Program Administrator

SHIELDS EXPLORATION CO.

320 BELLINO DRIVE
PACIFIC PALISADES, CA 90272
PHONE (213) 459-2490

September 24, 1997

Mr. Steven L. Rauzi
Oil & Gas Program Administrator
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701

Re: Shields Exploration Company
\$25,000 Oil Drilling Blanket Bond #KO 01 75 675
CIGNA Co. - Insurance Company of North America

Dear Mr. Rauzi:

Thank you for bringing this matter to our attention.

Shields Exploration Company requests permission to be released from liability under the referenced bond.

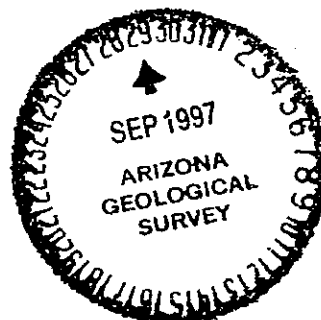
Thank you for your cooperation.

Sincerely,

Margaret M. Shields

Margaret M. Shields
Secretary-Treasurer

MMS/nr



Operator Jay M. Shields *Shields Exploration Co*
Bond Company Ins. Co. of No. America *See Rider for increase*
Amount \$5,000 to \$25,000
dated 2-5-82
Bond No. KO 01 75 67 5 Date Approved ~~10-2-80~~ 2-5-82

Permits covered by this bond:

715 ✓
770 ✓
771 ✓
772 ✓
774 ✓
775 ✓
781 ✓
805 ✓
814 ✓
815 ✓
816 ✓
817 ✓
853 ✓
855 ✓

Cancelled

9-29-87



Insurance Services

STUART A. RIGHT & ASSOCIATES

September 24, 1990

Mr. Jay Shields
Shields 1981 Program
320 Bellino Drive
Pacific Palisades, CA 90272

Re: Bond No: K001175705

Dear Jay:

This letter serves as confirmation of the following amendment to the above mentioned bond.

1. A 10456 is amended to read A 24237.

I anticipated receiving the actual endorsement in about a week and will express mail it to you when I get it.

If you should have any questions or if I can be of assistance in any way, please call me.

Sincerely,


Felicia Connors

FMC/ms

Enc.

CANCELLED
DATE _____

CIGNA Property and Casualty Companies

1120 West La Veta Avenue
P.O. Box 11001
Orange, CA 92668
(714) 647-2700

AZ OIL & GAS
CONSERVATION COMMISSION

JAN 2 1990

CIGNA

December 26, 1989

Oil & Gas Conservation Commission
State of Arizona
5150 N. 16th St., Ste. B-141
Phoenix, Arizona 85016

Attention: Daniel J. Brennan
Executive Director

Re: Shields 1981 Program
Oil well Drilling Bond No. K00175675

Dear Mr. Brennan:

This letter is in response to yours of November 2, 1989 and December 15, 1989. The intent of my October 31, 1989 Correspondence is to limit our liability under bond No. K00175675 to the existing exposure assumed on remaining unplugged wells. In other words, we do not wish to assume any additional liability on any new wells effective thirty (30) days from your receipt of our October 31, 1989 letter.

Please acknowledge your acceptance and date of termination in relation to our intention above on the enclosed copy of our October 31, 1989 letter. A self-addressed prepaid return envelope is enclosed for your convenience.

Sincerely,
INSURANCE COMPANY OF NORTH AMERICA

Linda Zappia
Linda Zappia
Bond Department

LZ:el

Sent 1/22/90
2/13

CIGNA Property and Casualty Companies

1120 West La Veta Avenue
P.O. Box 11001
Orange, CA 92668
(714) 647-2700

SECOND REQUEST

AZ OIL & GAS
CONSERVATION COMMISSION



October 31, 1989

DEC 1 1989

State of Arizona
Oil & Gas Conservation Commission
5150 N. 16th St., Suite B 141
Phoenix, Arizona 85016

Re: Shields 1981 Program
K00175675 - Oil Well Drilling

Gentlemen:

We, Insurance Company of North America, executed the above bond effective August 21, 1980, in the amount of five thousand dollars (\$5,000) and subsequently increased to twenty five thousand dollars (\$25,000). A copy of bond No. K00175675 is enclosed for your reference.

We, as Surety, elect to have additional coverage under this bond become inapplicable thirty (30) days after your receipt of this letter. Please acknowledge your acceptance and date of termination of additional coverage by signing the bottom copy of this letter, and returning to this office. A self-addressed prepaid return envelope is enclosed for your convenience.

Sincerely,

INSURANCE COMPANY OF NORTH AMERICA

Linda Zappia
Bond Department

LZ:el

cc: Shields 1981 Program
Stuart A. Wright & Associates

Additional coverage under bond No. K00175675
is hereby terminated effective 4/22/90.
State of Arizona
Conservation Commission

By: [Signature]
(Authorized Representative)

Date: 4/22/90

SHIELDS EXPLORATION CO.

320 BELLINO DRIVE
PACIFIC PALISADES, CA 90272
PHONE (213) 459-2490

October 9, 1989

Re: O/G Bond K00175675
CIGNA Company - Ins.Co.N/A

Mr. Dan Brennan
Secretary
Arizona Oil and Gas Conservation Commission
3110 North 19th Avenue - Suite 190
Phoenix, Arizona 85015

Dear Mr. Brennan:

With reference to the letter mailed to your Office and dated September 8, 1989 from CIGNA-Insurance Company of North America, Stuart Wright, who is our bonding principle, contacted the Company and found that the letter was open to misunderstanding. What the CIGNA people meant was that they would not provide any ADDITIONAL coverage.

As per the enclosed DOC #8620 - REPORT OF EXECUTION - dated 9/15/89, the subject Bond # K00175675 has been renewed from the effective date 8/21/89 to 8/21/90.

I continue to do battle with the 'companies'. My Partnerships are supportive for half the amount needed. The balance will be decided very shortly.

Will keep you advised.

Sincerely,


Jay M. Shields, President

Encl: Ins. Co. of N/A Report of Execution (Bond)

DEC #2520

INSURANCE CO. OF NORTH AMERICA
REPORT OF EXECUTION

NONCONTRACT
SURETY

FIELD OFFICE
LSS
DIVISION
A

BOND SYM: M BOND ID: K00175675 DATE: 09/15/89
IN LIEU OF BOND NUMBER:

PRODUCER: 357889 COMMISSION %: 20.00 COMMISSION: \$50.00
STUART A WRIGHT & ASSOC

23501 CALABASAS RD, STE 2021
CALABASAS CA 91302

PRINCIPAL:
SHIELDS 1981 PROGRAM

320 BELLINO DRIVE
PACIFIC PALISADES CA 90272

OBLIGEE:
STATE OF ARIZONA
GIL & GAS CONSERVATION COMMISSION
1645 WEST JEFFERSON, SUITE 420
PHOENIX AZ 85007

EFFECTIVE DATE: 08/21/89

EXPIRATION DATE: 08/21/90

TOTAL PREMIUM: \$250.00

BOND AMOUNT: \$25,000

SURCHARGE: \$0.00

RATE BASIS: STANDARD

BOND TYPE: NONCONTRACT

PAYMENT FREQUENCY: PREPAID

COLLATERAL INDICATOR:

EXPIRATION TYPE: RENEWABLE

D & S:

DESCRIPTION/TYPE OF BOND: OIL WELL DRILLING BOND

CLASS CODE: 429

REINSURANCE:

APPROVED BY:

PRINCIPAL'S ATTORNEY:
AGENT'S COPY

SEP 25 1989
S. A. WRIGHT & ASSOC.

INA

INSURANCE COMPANY OF NORTH AMERICA
PHILADELPHIA, PA. 19101

RECEIVED
FEB 16 1982
O & G CONS. COMM.

Rider to be attached to and form a part of Bond Number KO 01 75 675
on behalf of JAY M. SHIELDS
(Name)
(Principal),
(Address)
and in favor of State of Arizona (Obligee),
executed by the INSURANCE COMPANY OF NORTH AMERICA, as
Surety in the amount of TWENTY FIVE THOUSAND AND NO/100 (\$)
Dollars, effective January 7, 1982 19

The Principal and the Insurance Company of North America hereby consent to changing the said bond as follows:

Name of Principal amended to read:

SHIELDS 1981 PROGRAM

It is further understood and agreed that this bond covers all wells included in Lease #A 10457, all located in T 41 N-R 1 W, Coconino County, Arizona.

Nothing herein contained shall vary, alter or extend any provision or condition of the bond other than as above stated.

Signed, Sealed and dated this

5th day of February, 1982
Jay M. Shields

INSURANCE COMPANY OF NORTH AMERICA
By Edward W. Hallman

Subscribed and sworn to before me this
5th day of February, 1982
Mildred R. Farley
NOTARY PUBLIC in and for the County
of Los Angeles, State of California
by Jay M. Shields.



SHIELDS EXPLORATION COMPANY
320 Bellino Drive
Pacific Palisades, California 90272
(213) 459-2490

RECEIVED

FEB 16 1982

O & G CONS. COMM.

AKS
RAY ✓
Aut ✓
OS ✓

February 11, 1982

A. K. Doss, Secretary
Oil & Gas Commission
State of Arizona
1645 West Jefferson
Phoenix, Arizona 85007

Dear Mr. Doss:

The Government required a rider on my Performance Bond with them so thought it best to clear with you also. It relates to a transfer of the acreage on which my wells are located to my Shields 1981 Program.

For the record, the Shields 1981 Program is now the lease owner. Shields Exploration Company is the operator and also General Partner of the Program.

Will be sending along another Sundry Notice. They are indeed becoming pretty 'sundry'. I'm still planning a visit to the lease shortly, weather permitting.

Regards to you and Rudy. Will keep in touch.

Sincerely,

Jay M. Shields
Jay M. Shields
JMS/nmr

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS

Executed in Duplicate

Bond Serial No. KO 01 75 67 5

I, Jay M. Shields

RECEIVED

of the County of Los Angeles in the State of California

OCT 2 1980

as principal, and Insurance Company of North America

O & G CONS. COMM.

of 4050 Wilshire Boulevard, Los Angeles, California 90010

AUTHORIZED TO DO BUSINESS WITHIN the State of Arizona.

as surety, are held and firmly bound unto the State of Arizona and the Oil and Gas Conservation Commission, hereinafter referred to as the "Commission", in the penal sum of \$5,000.00 and no/100 (\$5,000.00) lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors, and assigns jointly and severally, firmly by these presents.

The conditions of this obligation are that, whereas the above bounden principal proposes to drill a well or wells for oil, gas or stratigraphic purposes in and upon the following described land situated within the State, to-wit:

NW¼ of the SE¼ of Section 24, T 41 N - R 1 W, COCONINO COUNTY, STATE OF ARIZONA

(May be used as blanket bond or for single well)

NOW, THEREFORE, if the above bounden principal shall comply with all the provisions of the Laws of this State and the rules, regulations and orders of the Commission, especially with reference to the requirements of A.R.S. §27-516, providing for the proper drilling, casing and plugging of said well or wells, and filing with the Oil and Gas Conservation Commission all notices and records required by said Commission, then in the event said well or wells do not produce oil or gas in commercial quantities, or cease to produce oil or gas in commercial quantities, this obligation is void; otherwise it shall remain in full force and effect.

Whenever the principal shall be, and declared by the Oil and Gas Conservation Commission in violation of the Laws of this State and the rules, regulations and orders of the Commission, the surety shall promptly:

1. Remedy the violation by its own efforts, or
2. Obtain a bid or bids for submission to the Commission to remedy the violation, and upon determination by the Commission and the Surety of the lowest responsible bidder, arrange for a contract between such bidder and the Commission, and make available as work progresses sufficient funds to pay the cost of remedying the violation; but not exceeding, including other costs and damages for which the surety may be liable hereunder, the amount set forth in the first paragraph hereof.

Liability under this bond may not be terminated without written permission of this Commission.

WITNESS our hands and seals, this 27th day of August, 1980

Jay M. Shields

Principal

WITNESS our hands and seals this 1st day of September, 1980

INSURANCE COMPANY OF NORTH AMERICA

BY [Signature]
NORMAN C. INGERSOLL, Attorney-in-fact
Surety

Surety, Resident Arizona Agent
If issued in a state other than Arizona

(If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes this bond by agent, power of attorney or other evidence of authority must accompany the bond.)

Approved Date 10-2-80

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

By: [Signature]

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION

Bond
File Two Copies

Form No. 2

Permit No. 715

715

POWER OF ATTORNEY

INSURANCE COMPANY OF NORTH AMERICA
PHILADELPHIA, PA.

OCT 2 1980

Know all men by these presents: That INSURANCE COMPANY OF NORTH AMERICA, a corporation of the Commonwealth of Pennsylvania, having its principal office in the City of Philadelphia, Pennsylvania, pursuant to the following Resolution adopted by the Board of Directors of the said Company on May 28, 1975, to wit:

"RESOLVED, pursuant to Articles 3.6 and 5.1 of the By-Laws, the following Rules shall govern the execution for the Company of bonds, undertakings, recognizances, contracts and other writings in the nature thereof:

(1) That the President, or any Vice-President, Assistant Vice-President, Resident Vice-President or Attorney-in-Fact, may execute for and in behalf of the Company any and all bonds, undertakings, recognizances, contracts and other writings in the nature thereof, the same to be attested when necessary by the Secretary, an Assistant Secretary or a Resident Assistant Secretary and the seal of the Company affixed thereto; and that the President or any Vice-President may appoint and authorize Resident Vice-Presidents, Resident Assistant Secretaries and Attorneys-in-Fact to so execute or attest to the execution of all such writings on behalf of the Company and to affix the seal of the Company thereto.

(2) Any such writing executed in accordance with these Rules shall be as binding upon the Company in any case as though signed by the President and attested by the Secretary.

(3) The signature of the President or a Vice-President and the seal of the Company may be affixed by facsimile on any power of attorney granted pursuant to this Resolution, and the signature of a certifying officer and the seal of the Company may be affixed by facsimile to any certificate of any such power, and any such power or certificate bearing such facsimile signature and seal shall be valid and binding on the Company.

(4) Such Resident Officers and Attorneys-in-Fact shall have authority to certify or verify copies of this Resolution, the By-Laws of the Company, and any affidavit or record of the Company necessary to the discharge of their duties.

(5) The passage of this Resolution does not revoke any earlier authority granted by Resolution of the Board of Directors on June 9, 1953."

does hereby nominate, constitute and appoint JOHN C. INGERSOLL, of the City of Los Angeles, State of California

, each individually if there be more than one named, its true and lawful attorney-in-fact, to make, execute, seal and deliver on its behalf, and as its act and deed any and all bonds, undertakings, recognizances, contracts and other writings in the nature thereof. And the execution of such writings in pursuance of these presents, shall be as binding upon said Company, as fully and amply as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office.

IN WITNESS WHEREOF, the said C. DANIEL DRAKE, Vice-President, has hereunto subscribed his name and affixed the corporate seal of the said INSURANCE COMPANY OF NORTH AMERICA this 31st day of March 1976.

INSURANCE COMPANY OF NORTH AMERICA

by C. Daniel Drake
C. DANIEL DRAKE Vice-President

(SEAL)

STATE OF PENNSYLVANIA } ss.
COUNTY OF PHILADELPHIA }

On this 31st day of March, A. D. 1976, before me, a Notary Public of the Commonwealth of Pennsylvania, in and for the County of Philadelphia, came C. DANIEL DRAKE

, Vice-President of the INSURANCE COMPANY OF NORTH AMERICA to me personally known to be the individual and officer who executed the preceding instrument, and he acknowledged that he executed the same; that the seal affixed to the preceding instrument is the corporate seal of said Company; that the said corporate seal and his signature were duly affixed by the authority and direction of the said corporation, and that Resolution, adopted by the Board of Directors of said Company, referred to in the preceding instrument, is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal at the City of Philadelphia, the day and year first above written.

MAUREEN SCHELL

Notary Public.



My commission expires August 13, 1979

I, the undersigned, Assistant Secretary of INSURANCE COMPANY OF NORTH AMERICA, do hereby certify that the foregoing is a full, true and correct copy of the original POWER OF ATTORNEY, of which the foregoing is a full, true and correct copy, in full force and effect. In witness whereof, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of the said corporation, this 1st day of September 1980.

Assistant Secretary



INSURANCE COMPANY OF NORTH AMERICA
PHILADELPHIA, PA. 19101

RECEIVED
APR 20 1981
O & G CONS. COMM.

Rider to be attached to and form a part of Bond Number KO 01 75 67 5

on behalf of Jay M Shields
(Name) (hereinafter called the principal) _____ (Principal),

(Address)
and in favor of State of Arizona _____ (Obligee),
executed by the INSURANCE COMPANY OF NORTH AMERICA, as
Surety in the amount of Five thousand and no/100 _____ (\$ 5,000.00)
Dollars, effective August 21, 19 80.

The Principal and the Insurance Company of North America hereby consent to changing the said bond as follows:

It is hereby agreed that the bond is increased to the following:

INCREASE: Twenty-five thousand and no/100 _____ Dollars. (\$ 25,000.00)

Nothing herein contained shall vary, alter or extend any provision or condition of the bond other than as above stated.

Signed, Sealed and dated this 4th. day of March, 19 81.

Jay M. Shields

By: Jay M. Shields

INSURANCE COMPANY OF NORTH AMERICA

By: Evie Pins

Evie Pins, Attorney-In-Fact (502)



INSURANCE COMPANY OF NORTH AMERICA
PHILADELPHIA, PA. 19101

RECEIVED

APR 20 1981

O & G CONS. COMM.

Rider to be attached to and form a part of Bond Number **K0 01 75 67 5**
on behalf of Jay M. Shields
(Name) (hereinafter called the principal)
(Principal),
(Address)
and in favor of State of Arizona (Obligee),
executed by the INSURANCE COMPANY OF NORTH AMERICA, as
Surety in the amount of Five thousand and no/100 (\$ 5,000.00)
Dollars, effective August 21, 19 80.

The Principal and the Insurance Company of North America hereby consent to changing the said bond as follows:

Rider Effective: February 24, 1981

It is hereby agreed that the following WELLS are amended to be included in the above bond.

1. 1 Well The SW $\frac{1}{4}$ of the SE $\frac{1}{4}$
2. 2 Well The SW $\frac{1}{4}$
3. 3 Well The E $\frac{1}{2}$ of the SE $\frac{1}{4}$ all in Section 24
4. 4 Well The N $\frac{1}{2}$ of Section 25

All areas are in T 41 N - R 1 W, Coconino County, Arizona.

Nothing herein contained shall vary, alter or extend any provision or condition of the bond other than as above stated.

Signed, Sealed and dated this 4th. day of March, 19 81.

Jay M. Shields

By: Jay M. Shields

INSURANCE COMPANY OF NORTH AMERICA

By: Evie Pins

Evie Pins, Attorney-In-Fact (502)



Fife Symington
Governor

State of Arizona
Arizona Geological Survey

416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500



Larry D. Fellows
Director and State Geologist

August 28, 1997

Mr. Jay M. Shields
Shields Exploration Company
320 Bellino Drive
Pacific Palisades, CA 90272

file 775

Re: Shields Exploration Company
\$25,000 Oil Drilling Blanket Bond #KO 01 75 675
CIGNA Co. - Insurance Company of North America

Dear Mr. Shields:

In accordance with Arizona statutes, the Arizona Geological Survey now provides administrative and staff support to the Arizona Oil and Gas Conservation Commission.

The Commission's records show that Shields Exploration Company maintains the referenced bond and yet has no outstanding drilling or plugging obligations in Arizona. A copy of the referenced bond is enclosed.

We have no record of written permission by the Arizona Oil and Gas Conservation Commission to terminate liability under the bond.

Please advise me in writing of your desire to be released from liability under the bond.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Program Administrator

enclosure

SHIELDS EXPLORATION CO.

320 BELLINO DRIVE
PACIFIC PALISADES, CA 90272
PHONE (213) 459-2490

Re: Plugging Records
Wells SF 1-19A, 2-19,
6A-24, 11-24, & 1-23

Mr. Dan Brennan, Secretary
Arizona Oil and Gas Conservation Commission
5150 North 16th Street - Suite B-141
Phoenix, Arizona 85016

Dear Mr. Brennan:

Attached are the Records for the Wells which we have plugged
on February 5 & 6.

Fortunately, there was a window in the weather during the
period from our arrival on Feb. 3rd to departure on the 8th.
Sorry that you or Mr. Rauzi were unable to be there for the
proceedings. Mr. Haas and Ms. Roberts of the BLM came up and
observed the procedures, Mr. Haas for the 3 days and Ms Roberts
during the plugging of the three open holes.

There were no problems. The cement transit trucks arrived on
schedule and the wet sand and gravel went downhole very nicely.
It's a good method especially in shallow and fractured rock.
The cement plugs worked fine, being handled by an expert water
well driller with a pick-up truck, hose and pump.

The cased holes, 2-19 & 6A-24, presented no problems especially
with Dowell-Schlumberger on hand. Expensive but got job done.
Used a gismo built by our welder to block the hole for surface
plug on 2-19. Plate attached to a heavy wire did the job.
On 6A, since Dowell had brought plenty of cement, I decided to
cement in the whole works so we gave the well 54 sax from TD at
491' to the surface.

Ms. Roberts from St. George examined all well sites and we have
that end of the job in hand. Will seed later in the spring.

Sincerely,

Ray M. Shields
SHIELDS EXPLORATION COMPANY



Oil and Gas Conservation Commission

STATE OF ARIZONA

5150 N. 16th STREET, SUITE B-141
PHOENIX, ARIZONA 85016
PHONE: (602) 255-5161

February 7, 1990

Jay M. Shields
Shields Exploration
320 Bellino Drive
Pacific Palisades, CA 90272

RE: Shields Federal No. 1-19A, State Permit No. 814
Shields Federal No. 1-23, State Permit No. 816
Shields Federal No. 11-24, State Permit No. 817
Shields Federal No. 6A-24, State Permit No. 775

Dear Mr. Shields:

Enclosed are the approved Application to Plug and
Abandon for the referenced wells.

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Specialist

copies to well files 816, 817, 775, 853, 814, 859

SHIELDS EXPLORATION CO.

320 BELLINO DRIVE
PACIFIC PALISADES, CA 90272
PHONE (213) 459-2490

Mr. Dan Brennan
Secretary, Arizona Oil and Gas Conservation Comm.
3110 North 19th Avenue Suite 190
Phoenix, Arizona 85015

Dear Mr. Brennan:

In reply to Rudy Ybarra's letter of July 22nd and with reference to recent telephone conversations with you and Mr. Ybarra concerning the abandonment of additional shallow Wells drilled by Shields Exploration Company on the White Sage Prospect, we have checked our records and enclose a Well Location Map showing the status of each Well. Listed below are the Wells and our plans for the shallow ones that have not yet been abandoned.

Our records indicate that the Travis Federal 1-24 and the Shields Federal #1-24, #2-24, #4-24, #5-24 and the #1-19 are P&A. The record does not confirm the status of the #1-23 and it will be checked on site.

The Shields Federal #11-24 and #6A-24 have been kept in the Temporary Abandonment category pending final analysis and decisions regarding the results of the deepening of the #1-19A Well (Feb 1988). We will now plan to abandon the #11-24 and the 6A-24 and, if not already officially abandoned, the #1-23 at such time as we next commence operations on the White Sage Lease.

It is most important to our present and future plans to maintain the Shields Federal #2-19 and #11-24 Deeper Tests in their current shut-in status.

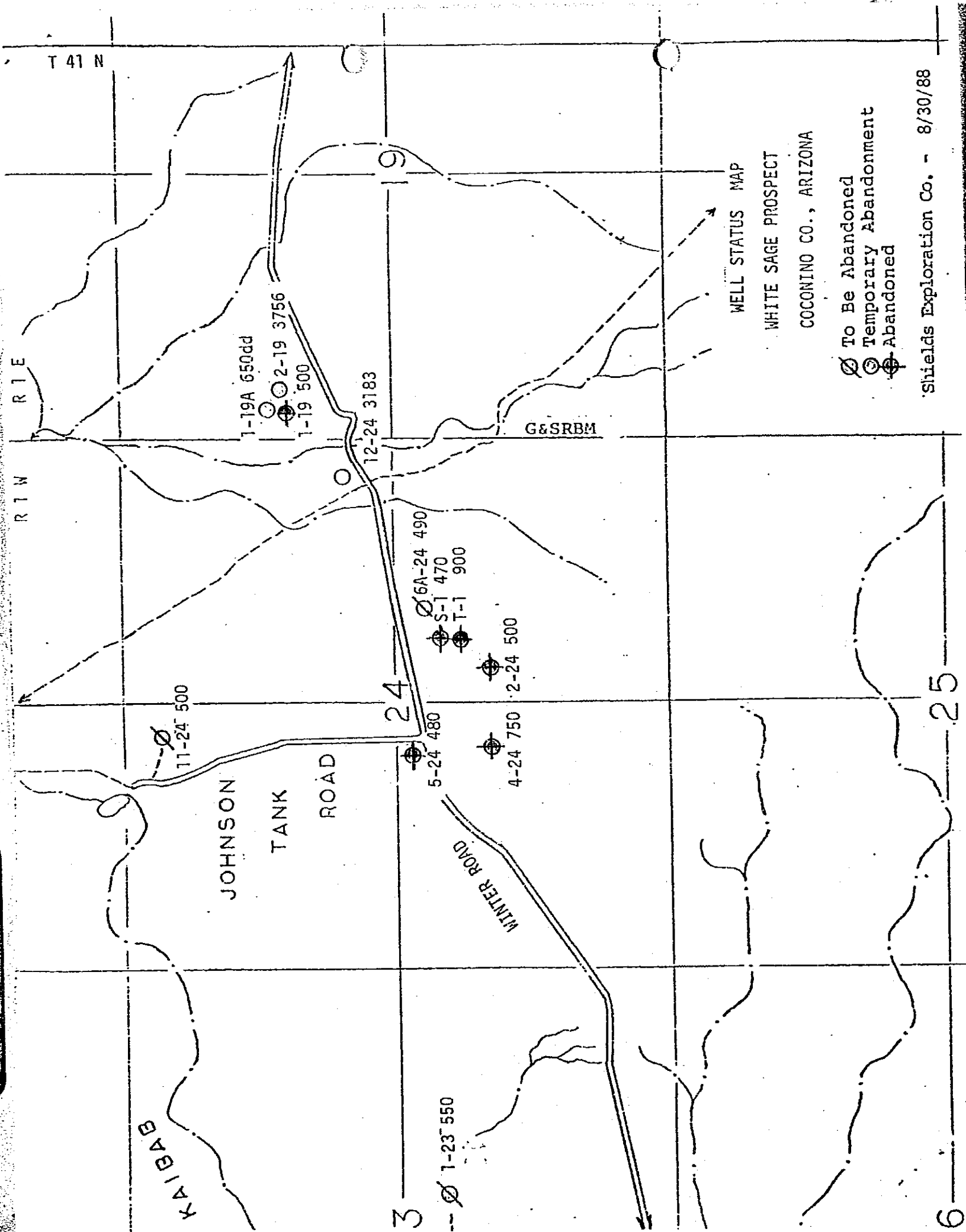
I would like to take this opportunity to thank you, Mr. Ybarra and the Oil and Gas Commission for the help and cooperation provided down through the years. We look forward to a successful conclusion recognizing that the finding of commercial oil on the Frontier is important to us all.

Sincerely,

Jay M. Shields

Jay M. Shields
Enc: Well Location Map - White Sage Prospect

<i>Wells</i> Shields 1-24	<i>Remit</i> 715	2-19 853
Travis 1-24	703	12-24 - 859
Shields 2-24	771	
" 4-24	772	
" 5-24	774	
" 1-19	814	
" 1-23	816	
" 11-24	817	
" 6A-24	775	



WELL STATUS MAP

WHITE SAGE PROSPECT

COCONINO CO., ARIZONA

- ⊗ To Be Abandoned
- ⊙ Temporary Abandonment
- ⊕ Abandoned

Shields Exploration Co. - 8/30/88

SHIELDS EXPLORATION CO.

320 BELLINO DRIVE
PACIFIC PALISADES, CA 90272
PHONE (213) 459-2490

6A 24 775
RECEIVED

OCT 18 1983

O & G CONVS. COMM.

October 14, 1983

Mr. Rudy Ybarra
Oil and Gas Conservation Commission
State of Arizona
1645 West Jefferson, Suite 420
Phoenix, Arizona 85007

Dear Rudy:

I understand from Bob West that you and AK were up in Fredonia a short while ago just after we left. Sorry to have missed you and sorry to hear that the Brooks Well didn't find anything.

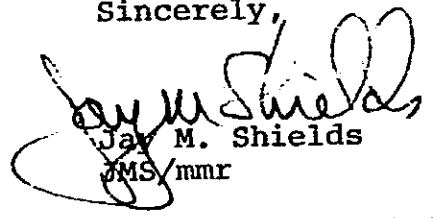
We were up at our lease primarily to bail the shallow wells. Results are attached. We will now have to bite the bullet and go about abandonment procedures. I had hoped that we would see a little oil after fracing. Would you please send me a batch of the necessary abandonment forms?

The shallow well data has also been sent on to the BLM in St. George together with water samples of the #1-23, #11-24 and #1-19A wells. The other wells were frac'd and fluid is still strongly acid.

Did you see the Article in the September Issue of the Oil and Gas Investor? Sure a lot of smoke with no fire. Maybe 1984 or ?

Very best to you both. Will keep you advised and hold kind thoughts.

Sincerely,


Jay M. Shields
JMS/mmnr

Enclosures: Bailing Redord
cc Oil & Gas Investor Magazine article

Shields -

I sent the requested forms on 10/26/83

SHIELDS EXPLORATION CO.

320 BELLINO DRIVE
PACIFIC PALISADES, CA 90272
PHONE (213) 459-2490

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OCT 18 1983

O & G CONS. COMM.

October 14, 1983

INTERIM REPORT
WHITE SAGE PROSPECT - COCONINO COUNTY, AZ

Existing shallow wells, all drilled by Air-Hammer, were bailed on September 26, 1983. Results were as follows:

- SF #2-24 - Spud 11/11/81. TD 500'. PBTD 480'. Cored 454'-472'. Rec 18'. Log DIL - CDL. Cmdt 4½" csg @ 430'. Acid HCl + N₂. Valve opened. Slight pressure - acid odor. Recovered bits grey ss and grey mud. No fluid.
- SF #4-24 - Spud 11/19/81. TD 750'. PbTD 475'. Cored 445' - 460' and 731' - 750'. Rec 34'. Log DIL - CBL. Cmdt 4½" csg @ 426'. 4½" Bull Plug opened. Weak blow. Odd odor, slightly acid. Recovered small amount blk sludge. No fluid.
- SF #5-24 - Spud 11/4/81. TD 480'. Cored 453' - 462'. Rec 9'. Log DIL - CDL. Cmdt 4½" csg @ 434'. Acid HCl + N₂. Valve was open. No pressure. S and acid odor. Recovered cloudy, acid water. Approx 10' water in hole.
- SF #6A-24 - Spud 12/1/81. TD 490'. Cored 465' - 473'. Rec 8". Log DIL - CDL. Cmdt 4½" csg @ 434'. Acid HCl + N₂. Valve was open. No pressure. No odor. Recovered clear, acid water. Top water 400' + or -.
- SF #11-24 - Spud 8/28/82. TD 540'. Cmdt 7" csg @ 40'. Hole open to TD. Sampled. Not logged. Plate - no valve. No pressure. No odor. Recovered several cans light tan water. Slight S odor. Top water 450' + or -.
- SF #1-23 - Spud 9/14/82. TD 550'. Cmdt 7" csg @ 55'. Hole open to TD. Sampled. Not logged. Plate. No valve. No odor. Top water @ approx 400'. Recovered lite tan water, earthy odor.
- SF #1-19 - Spud 8/30/82. Td 420'. Drill stuck. Abandoned hole. Sampled. Not logged. Marked with 4' = 4½" pipe. P & A 9/13/82.
- SF #1-19A - Spud 9/7/82. TD 500'. Cmdt 7" csg @ 40'. Hole open 100'N 30°W to TD. Sampled. Not logged. Plate. No valve. Small Offset to amt. fluid @ TD. Top approx. 490'. Recovered lite SF #1-19. greyish water with oily odor.
- SF #1-24 - TD 482'. P&A 12/30/81.
- TF #1-24 - TD 900'. P&A 9/13/82.

SHIELDS EXPLORATION COMPANY
320 Bellino Drive
Pacific Palisades, California 90272
(213) 459-2490

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JUL 12 1982

O & G CONS. COMM.

July 7, 1982

A. K. Doss, Secretary
Oil and Gas Conservation Commission
State of Arizona
1645 West Jefferson, Suite 420
Phoenix, Arizona 85007

Dear Mr. Doss:

Enclosed are cuttings from four shallow wells drilled
by Shields Exploration Company east of Fredonia in
Cocconino County and all located in Section 24, T41N-
R1W, G&SRBM.

P/N

771

Shields Federal #2-24:

TD 500'. Cored 454 - 472. Recovered 18'.

S/N
1835

772

Shields Federal #4-24:

TD 750'. Cored 445 - 460 and 731 - 750.
Recovered 34'.

1836

774

Shields Federal #5-24:

TD 480'. Cored 450½ - 463½. Recovered 10½'.

1837

775

Shields Federal #6A-24:

TD 491'. Cored 465 - 473. Recovered 8'.

1838

Would you be good enough to acknowledge receipt of
these cuttings using the enclosed self-addressed
envelope.

SHIELDS 1981 PROGRAM

by Shields Exploration Company, General Partner

Jay M. Shields
Jay M. Shields, President
JMS:mmr

Enclosure: Self-addressed envelope
cc: John Wagner, District Supervisor
USDI Minerals Management Service
Bakersfield, California

No envelope enclosed

SHIELDS EXPLORATION COMPANY
320 Bellino Drive
Pacific Palisades, California 90272
(213) 459-2490

AKS
RECEIVED

MAY 3 1982

O & G CONS. COMM.

April 28, 1982

Mr. Rudy Ybarra
Oil & Gas Conservation Commission
State of Arizona
1645 W. Jefferson, Suite 420
Phoenix, Arizona 85007

Dear Rudy:

Enjoyed having a chance to see you and AK last week and I appreciate the information you provided in our conversation this morning.

Enclosed are the following:

- Filed
P/N 7152*
- 1) Wellex Logs DIL and GNDL and Caliper logs run on 4 wells - #2-24, #4-24, #5-24 and #6A-24, plus a DIL log on the Travis #1-24 well (GNDL log could not be run in 5" hole).
 - 2) Composite Sample Log - 0' to 900'. Please do not release this log at this time.
 - 3) ✓ Copy of Core Lab, Inc. Gas Analysis on well #6A-24 - do not release.
 - 4) 4 Halliburton Laboratory Reports - do not release.
 - 5) Review and Analysis of the Shallow Drilling - do not release.
 - 6) Evaluation of the Deep Test - do not release.
 - 7) Sundry Notices covering all wells drilled on the White Sage Lease Block, plus a Sundry Notice (Release) on #3-24 (delete from your file).

I had a nice conversation with John Wagner and Bob Kohlbusch. Everything seems to be OK with them and we are going up to Bakersfield on Thursday for a meeting and discussion of my project. They will receive the same information as above.

Thanks again for the prompt and efficient processing of my Application to drill the Shields Federal #10-24. All good wishes to you and AK.

Sincerely,

Jay M. Shields
Jay M. Shields
JMS/nmr

*Got along fine with
Bob K. They like "shotgun"
idea of shallow drilling.
Way go that route first - Be in
Touch*
Jay

Enclosures: Wellex logs, Composite sample log, Core Lab Report, Halli-
burton Reports, Shallow Drilling Review, Deep Test
Evaluation and 5 Sundry Notices.

From the desk of:

JAY SHIELDS

4/26/82

Steve Ariz

Attached are the following
Welox logs - P/N

2-24 CDL + DIL + HC 721

4-24 CDL + DIL + HC 772

5-24 CDL + DIL + HC 774

6A-24 CDL + DIL + HC 775

Travis 1-24 - - DIL - - 770

Composite Sample Log

RECEIVED

MAY 3 1982

O & G CONS. COMM.

December 2, 1981

Mr. Jay M. Shields
320 Bellino Dr.
Pacific Palisades, CA 90272

Re: Location change
6-24 Federal, Permit 775

Dear Jay:

This office acknowledges receipt of your application, along with fee of \$25.00 to change the location of well 6-24 Federal.

Your check for \$25.00 is being returned to you as no additional fee is required on this type of transaction.

Hope everything is working out well.

Sincerely,

R. A. Ybarra
Director
Enforcement Section

RAY:os
Enc.

From the desk of:

JAY SHIELDS

RECEIVED

DEC 1 1981

O & G CONS. COMM.

Dear A. K.:

As per our telephone conversation, enclosed is revised location for my SF #6-24 strat test now designated #6A-24.

- 1) applic. to drill
- 2) Loc. Plat
- 3) Sundry Notice -

also Sundry Notice for the SF 4-24 well. I expect to spend the #6A-24 on 12/1/81. Will call Rudy -

775 Regards, Jay Shields

September 24, 1981

Mr. Jay M. Shields
320 Bellino Drive
Pacific Palisades, CA 90272

Re: Shields 5-24 Federal, Permit 774
Shields 6-24 Federal, Permit 775 ✓

Dear Mr. Shields:

Enclosed are approved application for permit to drill, permit,
and receipt for each of the above referenced wells.

Also enclosed are instructions for progress reports and handling
of samples.

If we may be of further service, please advise.

Very truly yours,

A. K. Doss
Executive Director

/os
Encl.

SHOVED 11/1/81

Jay M. Shields, 320 Bellino Drive, Pacific Palisades, California 90272
(213) 459-2490 or 459-1298

RECEIVED

SEP 23 1981

O & G CONS. COMM.

September 18, 1981

Mr. A. K. Doss, Secretary
Arizona Oil and Gas Conservation Commission
Suite 420
1645 West Jefferson
Phoenix, Arizona 85007

Re: SHIELDS FEDERAL # 5-24, T41N-R1W, Coconino County, Arizona
SHIELDS FEDERAL # 6-24, T41N-R1W, Coconino County, Arizona 775

Dear Mr. Doss:

Reference my recent letter, I am enclosing 2 additional Applications for Permit to Drill for two (2) wildcat wells, the SHIELDS FEDERAL # 5-24 and the SHIELDS FEDERAL # 6-24, both in Section 24, T41N-R1W, Coconino County, Arizona.

In accordance with the requirements of the Commission, I enclose the following forms and documents:

1. SHIELDS FEDERAL #5-24 and SHIELDS FEDERAL #6-24
 - a) Application for Permit to Drill including Survey Plat of Location by Phil Drake, R.L.S., Utah, for Shields Federal #5-24 and Shields Federal #6-24.
 - b) Designation of Operator/ SF #5-24 and SF #6-24
 - c) Organization Reports/ SF #5-24 and SF #6-24
 - d) 2 (two) checks for filing fee (\$25 each) - SF #5-24 and #6-24

On file in your office is a Performance Bond for \$25, 000.

All of the above applications have been filed with John Wagner, USGS and the BLM. Please note that my previous drilling applications, as well as the above, are for stratigraphic tests and for technical reasons have been surveyed on what amounts to 10-acre spacing.

I would like to get ^{underway} in October, if possible, and will keep you fully advised of developments.

Sincerely,

Jay M. Shields
Jay M. Shields
JMS:mmr

Enclosures: For SHIELDS FEDERAL # 5-24 and SHIELDS FEDERAL # 6-24
cc (2 each) Application for Permit to Drill & Survey Plats
cc (2 each) Designation of Operator
cc (1 each) Organization Report
check for \$25 Filing Fee (1 each) *not included 9-23-81*